ASSESSING THE FEASIBILITY OF IMPLEMENTING MUP IN THE WESTERN CAPE, SOUTH AFRICA: THE EXPERIENCE OF SCOTLAND, THE NORTHERN TERRITORY OF AUSTRALIA, RUSSIA AND BOTSWANA OF MUP AND OTHER PRICE BASED POLICIES

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EXECUTIVE SUMMARY

In its pursuit of evidence-based alcohol policies, the Western Cape government is investigating the efficacy and feasibility of introducing a Minimum Unit Price (MUP) for alcohol. This intervention can be very effective at reducing the high levels of alcohol-related harm experienced in the Province. An MUP policy would impose a minimum retail price dependent upon the alcohol content of the drink. This increases the price of the cheapest alcohol, which is often preferred by the heaviest drinkers, making it a targeted tool for reducing alcohol-related harm. Crucially, it applies across all types of alcohol malt beer/traditional beer/wine/spirit/ready-to-drinks) so that drinkers are not able to switch to cheaper alternatives.

Long-established economic theoretical and empirical evidence has shown that increasing the price of alcohol will reduce demand for the product. The use of an MUP to reduce demand, and therefore alcohol-related harm, is a relatively recent policy tool compared to the long-established practice of influencing prices via excise taxes. An MUP works alongside a taxation system and does not replace it. There are now a number of international examples of MUP and other alcohol pricing policies which can provide valuable insight to policy makers in the Western Cape.

The governments in Scotland and the Northern Territory of Australia implemented MUP in 2018 in an effort to combat the high levels of alcohol-related harm in those areas. These provide the most complete examples of how the legislation was proposed, opposed, passed, and eventually implemented. Empirical evidence of the effectiveness of the policy is now beginning to emerge. Russia, with its history of extremely high alcohol-related mortality, has also experimented with pricing policies, although never implementing a universal MUP policy. It legislated minimum unit prices to be applied to spirits, primarily vodka. As an MUP has not yet been applied in any African country, the Western Cape Province of South Africa would be pioneering the approach on the continent. However, Botswana provides an example of a concerted effort by an African government to increase alcohol prices via the introduction of a tax levy, over and above the standard excise tax.

This report comprises one part of a broader scheme of work led by the Research Unit on the Economics of Excisable Products (REEP) at the University of Cape Town and commissioned by the DG Murray Trust on behalf of the Western Cape Government. It outlines in detail the experience of four countries in implementing pricing policies designed to reduce alcohol-related harm through MUP. We use these case studies to highlight lessons that can be used to inform Minimum Unit Pricing Guidelines for the Western Cape Government.

Scotland

In May 2018 Scotland became the first country to pass a universal MUP policy of 50 pence (R10) per unit.[1] Scotland has a population similar in size to the Western Cape Province, with high levels of problem drinking, and the Scottish government used the legislative powers available to them to take decisive action as part of a broader programme of reforms designed to tackle alcohol-related harm. The legislation was passed in 2012, but implementation was delayed for six years because of legal opposition driven by the alcohol industry. The legislation was finally passed with a "sunset clause", whereby it becomes void after six years unless voted back into law. An evaluation programme was built into the legislation in order to gather necessary evidence on the impact of the policy. This will be used to inform the critical decision of whether to continue the policy.

There was extensive lobbying by the alcohol industry in opposition to the legislation. They developed close relationships with politicians and the media. The legal battle was finally won by the Scottish government on the basis of public health arguments supported by research evidence from academic institutions.

The evidence from the evaluation programme has demonstrated that the MUP in Scotland has led to a 7.6% reduction in consumption, with greater reductions in lower-income households (O'Donnell et al., 2019; Public Health Scotland, 2020). In addition, alcohol-specific death rates had started to fall since 2018 (NHS Health Scotland, 2021), unfortunately recent data shows an increase in alcohol related deaths in 2020 but this is highly likely due to people's disengagement with treatment serves and healthcare due to Covid-19 (National Records of Scotland, 2021). although 2020 saw an increase in deaths likely due to the Covid-19 pandemic increasing drinking and limiting access to health. It should be noted the UK government did not restrict the sale of off-trade alcohol during lockdown as in South Africa. No evidence has been found of an increased use of illegal alcohol or other substances amongst dependent drinkers (Buykx et al., 2021). Public support for the policy has risen since implementation (Ferguson, Beeston, & Giles, 2020).

The successful implementation of the MUP in Scotland and emerging evidence that it has had a positive impact has encouraged Scotland's neighbours to introduce an MUP as well. Wales implemented the same MUP as Scotland in 2020 and the Republic of Ireland is planning to implement an MUP of its own in January 2022 (with a higher MUP of €1 (R17) per 12.5 ml of pure ethanol). Northern Ireland is also considering introducing a MUP.

[1] A Scottish unit of alcohol (standard drink) is defined as 10 ml (8 g) of pure alcohol, whereas in South Africa a standard drink is defined as 15 ml (12 g).

Northern Territory of Australia

The Northern Territory Government of Australia introduced a universal MUP of AUS 1.30 (R13.85 per 12 ml of pure ethanol) in 2018. This was in response to the culture of heavy drinking, particularly amongst indigenous Australians, linked to a history of colonialization and social exclusion. Alcohol had been used by European settlers for remuneration and social control of the indigenous population, in a manner similar to the "dop" system in the Western Cape Province. The government had also historically used prohibition as a means of control, further exacerbating the problem. Heavy drinkers in the Northern Territory generally drink cheap wine-based alcohol. Australia is a wine-producing nation and has created an excise tax system that disproportionally benefits wine, as is the case in South Africa.

The Northern Territory government consulted broadly, during the process of policy formulation, with those both for and against the MUP. They maintained a clear public health focus and used empirical evidence from academic institutions whilst following a transparent legislative process. The original plan was to introduce MUP at $1.50; however, this was reduced to $1.30 as a result of industry pressure. The MUP policy was implemented in conjunction with a Banned Drinker Register (BDR) and Police Auxiliary Liquor Inspectors (PALIs), where police officers are stationed at the entrance of off-trade outlets in specific regions of the Northern Territory.

The first-year evaluation report found that total alcohol sales, alcohol-related assaults, protective custody episodes, alcohol-related ambulance attendances, alcohol-related road traffic crashes, and the number of child protection notifications, protection orders and out-of-home care cases throughout the territory, all declined as a result of the MUP policy (Coomber et al., 2020).

Russia

Since 1990, the Russian Federation has implemented many and varied alcohol-related policies in order to combat high mortality rates associated with a culture of heavy drinking. As part of this, a MUP on vodka, a popular drink in Russia associated with heavy drinking and illegal production, was set at 16.54 Roubles (R3.31 per 15 ml of pure ethanol) in 2015. The policy has since expanded to include spirits but does not include all drink types, although they now also have a sparkling wine MUP. The MUP for vodka has been inconsistently applied, with MUP levels increasing and decreasing as a result of conflicting economic and political considerations. The high levels of alcohol-related harm can be linked to previous government policies that kept the price of vodka artificially low even when prices and wage rates rose during Russia's transition from a command to a market economy. In Russia, vodka is considered an essential good. In addition, the state is involved in the production of vodka, further complicating the issue. The piecemeal application of the MUP policy, Russia's unique political history, and the lack of academic literature make Russia's minimum pricing policy hard to evaluate or to apply

to the Western Cape. However, it does provide a few warnings. When political interests conflict with public health interests, a policy's effectiveness may be reduced. For example, in 2014 the Russian government reduced the level of MUP, which led to an increase in consumption. Rather than including all alcohol in the MUP, the MUP was applied to a limited number of alcohol categories. Differential or limited application of the MUP to different alcohol categories would strongly undermine the policy in a South African context. South Africa already taxes different categories of alcohol differently, which enables the sale of very cheap alcohol.

There are broader lessons which can be learnt from the Russian experience. A comprehensive suite of alcohol-control policies was used by the government, including providing healthcare for those dependent on alcohol, restricting the availability of alcohol (opening hours, electronic tracking), introducing stricter-drink driving regulations, and implementing price-related and marketing policies (Lachenmeier, 2021). Evidence demonstrates that periods of more focused alcohol policy and enforcement were associated with declining mortality rates, whilst periods with fewer controls were associated with increasing mortality (Neufeld, Ferreira-Borges, Gil, Manthey, & Rehm, 2020, Nemtsov, Neufeld and Rehm, 2019).

The implementation of a centralised electronic tracking and monitoring system (EGAIS), motivated by a desire to reduce the prevalence of illegally produced alcohol and regulate the market, appears particularly important. South Africa has a different context in which legally produced alcohol is often sold in unlicensed premises. In this situation, a track and trace system would enable enforcers to see where the supply of alcohol originates and promote better regulation of the market.

Botswana

Botswana suffers high levels of alcohol-related harm, in particular in relation to the HIV epidemic. In 2008, the President of Botswana, Lt General Ian Khama, introduced a 30% alcohol tax levy, commonly known as the Presidential Levy. The levy was introduced on top of the existing excise tax system, which applies to all five members of the Southern African Customs Union (Botswana, Eswatini, Lesotho, Namibia and South Africa). In addition to the levy, additional alcohol-control measures were passed, including a reduction in the opening hours of licensed premises, the outlawing of the sale of traditional beer from residential dwellings, and harsher penalties for alcohol-related road traffic offences.

The introduction of the levy was driven by the President's strong personal commitment to reduce alcohol consumption in the country. The rate originally proposed was 70% but this was reduced to 30% prior to implementation due to strong industry opposition. Kgalagadi Breweries Limited and Botswana Breweries Limited (both owned by SAB Miller) took their case to the High Court of Botswana but were unsuccessful. The levy had increased to 55% by 2014 but has since been reduced to 35% by President

Mokgweetsi Masisi. There appears to be little research evidence supporting the level of the original policy or the subsequent revisions, which may have contributed to low levels of media and public support.

Evidence from an evaluation of the levy suggests that there was a reduction in consumption, road fatalities, and accidents following the Presidential Levy (Parry & Voetsch, 2012). The government of Botswana has not commissioned further evaluation of the policy, missing an opportunity to gather empirical evidence on pricing policies for alcohol in Africa.

Recommendations and conclusion

The above four case studies provide international evidence of price-based policies which have successfully reduced alcohol consumption and related harm in very different contexts. All four demonstrate the importance of empirical evidence (ideally independently collated) to support policy–makers' decisions, particularly its critical role in winning legal battles. Quantitative appraisal evidence should be provided to estimate the potential impact of the MUP on consumption and health for different subgroups. This should be clearly communicated to policy-makers, the media, and the public to ensure transparency. The differential impact on poorer socio-economic groups, leading to improved health for those groups (as seen post-implementation in Scotland), is particularly crucial for South Africa.

All four case studies demonstrate the importance of the concurrent implementation of price and non-price alcohol harm reduction policies. The non-price policies complement the MUP policy, for example providing better healthcare access, giving support to those dependent on alcohol, and mitigating potential negative effects created by the pricing policy. MUP should not be seen as a silver bullet and should be considered as part of a package of reforms to reduce alcohol-related harm in the Western Cape.

The alcohol industry in South Africa will oppose the implementation of a MUP policy in the Western Cape, as they did in Scotland through legal challenge, and in the Northern Territory primarily through influence and lobbying. Industry efforts in Scotland, Botswana, and the Northern Territory of Australia were successful in reducing the level of the MUP (or levy) prior to implementation, either by arguing for a lower rate or through delays to implementation such that inflation reduced the value of the MUP in real terms.

The industry's predictions of job losses have not been realised in Scotland or the Northern Territory. Scotland and the Northern Territory provide no evidence of harm to the industry. Opposition arguments may be many and varied, sometimes even contradictory. For example, they may argue that there will be job losses, but also that windfall profits will accrue to retailers rather than increased revenue going

to the government. There are likely to be arguments related to compliance and the unregulated sector, and to substitution of alcohol not intended for consumption or of homebrew. These issues are being researched specifically for the Western Cape as part of the broader scheme of work in which this report is set.

A key theme emerging from all the case studies is the need for thorough and independent evaluation of the policy post-implementation. Scotland and Australia provide examples of a structured evaluation programme carried out by independent bodies, a potential blueprint for the Western Cape Province. Their four key areas of focus are (1) implementation and compliance, (2) alcohol consumption, (3) impact on the alcohol industry, and (4) health and social harms. In the case of Botswana, whilst an independent evaluation was conducted, the outcomes of the evaluation were not heeded to. The case of Botswana, and to some extent Russia, demonstrates what is lost when independent academic evaluation is not conducted or taken on board. Both Botswana and Russia subsequently reduced the levels that their pricing policies were originally set at, leaving decision-makers unable to make evidence-informed decisions which would optimise public health.

Lessons for the Western Cape government writing a MUP policy

An effective MUP must apply across all beverage types.

An MUP should be implemented as part of a suite of alcohol harm reduction policies[2].

An MUP should be linked to inflation (as a minimum) in order to maintain its effectiveness.

The industry will almost certainly oppose the policy, making a clear public health rationale essential.

Quantitative evidence is needed to support the policy through any legal battles, provide decision-makers with enough information to make informed choices as to the level of the MUP, and positively engage media and public opinion.

Strong governmental leadership at both the administrative and executive is necessary for the policy to be successfully passed and implemented.

[2] It should be noted that the implementation of other interventions and/or policies can be implemented independently. Policy makers need not wait on the conclusion or finalisation of MUP legislation to operationalise a basket of policies and interventions that support MUP.

A comprehensive and independent evaluation programme should be written into the MUP legislation.

Accountability to the public through the reporting of the findings of the independent evaluation to enable support for the ongoing implementation of MUP.

CHAPTER 1: INTRODUCTION, RATIONALE AND METHODS

1.1. Introduction

Over the last two decades, there has been substantial global discussion about the implementing of alcohol Minimum Unit Pricing policies (MUPs). This section of the report outlines the findings of a desktop review of four countries where price- and tax-related interventions aimed at reducing the demand for alcohol were implemented. Whilst MUPs have already been successfully implemented in countries such as Canada (in some provinces), Scotland, and the Northern Territory of Australia, only two of these (namely Scotland and the Northern Territory of Australia) have been selected for inclusion in this review. Whilst Canada has introduced an MUP in British Colombia, Quebec and Saskatchewan, the review team opted to not include Canada but rather the Northern Territory because the Northern Territory (like the Western Cape) have been granted a limited right of self-government by the federal government, shares a similar history of colonisation and risky and unhealthy relationships with alcohol. Of the countries that our search found that have implemented MUPs, none were low- and middle-income countries (LMICs), and none in Africa. We therefore include Russia, which is an LMIC with a MUP for spirits only, and Botswana, which introduced a tax levy. A tax levy, whilst not the same as MUP has a similar effect of raising the minimum floor price of products, but the extra revenue goes to the government not to the retailers or producers, as in the case of MUP. These two countries, though not implementing a true MUP policy, still provide examples of pricing policies applied to alcohol and may offer important lessons for the Western Cape Province.

1.2. Rationale guiding the implementation of an MUP in South Africa and the Western Cape

Developing an MUP is particularly important for South Africa, since South Africa has one of the highest levels of heavy episodic drinking (HED) in sub-Saharan Africa (Probst, Parry, Wittchen, & Rehm, 2018). The recent Global Burden of Disease study placed alcohol use as the sixth risk factor for disability adjusted life-years (DALYs) lost in South Africa (Vos et al., 2020), and the seventh risk factor for death. A 2018 study found that 62,300 people died from alcohol-attributable causes in South Africa in 2015, just over 170 per day (Probst et al., 2018). South Africa has very high rates of hazardous alcohol consumption among drinkers, and these rates of hazardous drinking appear to be on the rise (Ferreira-Borges, Parry, & Babor, 2017). For example, in a cross-sectional analysis, researchers found an increase

in the proportion of drinkers reporting binge drinking, an indicator of hazardous alcohol consumption, from 9.8% in 2005 to 13.2% in 2012 (Probst, Simbayi, Parry, Shuper, & Rehm, 2017).

Alcohol plays a substantial role as a risk factor for disease and injury. In 2012, alcohol attributable harm accounted for 7.1% of all deaths and 6.2% of Disability Adjusted Life-Years (DALYs). Amongst the top ranking for alcohol attributable DALYs for specific causes were: TB (22.6%), HIV/AIDS (16.0%), road traffic injuries (15.9%), interpersonal violence (12.8%), cardiovascular disease (11.1%), cancer and cirrhosis (both 4%) (Matzopoulos et al., 2021). Risky drinking patterns also place additional burdens on individuals. For instance, the relative risks of hypertension compared to abstainers are 1.4 for low drinkers; 2.0 for moderate drinkers, and 4.1 for heavy drinkers (Schneider et al, 2007). Additionally, the country has among the world's highest reported prevalence rates of foetal alcohol spectrum disorders (FASD) per 10,000 population (Popova, Lange, Probst, Gmel and Rehm, 2017).

Whilst alcohol consumption has substantial health and injury consequences, it also has a negative impact on social and economic outcomes. Harmful alcohol use affects both social and personal relationships and is a risk factor for gender-based violence. According to micro-level studies done locally and in other countries, the negative social impacts of alcohol misuse result in long-term health issues, job insecurity, and deteriorating family relations, which are felt more severely amongst families at the lower end of the socioeconomic scale (Rehm et al., 2009; Rehm & Parry, 2009). Harmful use of alcohol also reduces job productivity, employment, and ultimately income levels (Harker Burnhams, Parry, Laubscher & London, 2014).

From an economic perspective, the negative impacts of harmful alcohol consumption have also been documented. Matzopoulos et al. (2014) highlighted the importance of calculating the economic costs associated with alcohol consumption and the contribution this makes to informing alcohol management policies and laws (Matzopoulos, Truen, Bowman, & Corrigall, 2014). The literature further suggests that the costs associated with alcohol consumption are multifaceted. For example, van Walbeek and Blecher (2016) explain the misuse of alcohol as generating an internal cost (use of the misuser's resources) and an external cost (the cost inflicted on others). Internal costs include higher medical expenses, increased insurance premiums, lower eligibility for loans, lower wages, lost employment opportunities, and higher legal expenses than for person having lower or no alcohol consumption (van Walbeek C & Blecher, 2016). The bigger cost category is external costs, which include the labour costs associated with lower work productivity, absenteeism, unemployment, and early retirement (Matzopoulos et al., 2014). In 2009, a summary detailing both internal and external costs attributable to alcohol in South Africa, divided into tangible and intangible costs, was estimated. The final estimate was 246– 281 billion rand annually. Whilst tangible costs are in the region of R38 billion, total intangible costs are much higher, incorporating premature mortality and morbidity costs (Matzopoulos

et al., 2014). As a proportion of the GDP, the total costs related to alcohol were estimated at 10 - 12% of the 2009 gross domestic product (GDP).

The Western Cape, in particular, continues to be heavily burdened by harmful alcohol use. The 2016 South African Demographic and Health Survey reports a prevalence of alcohol use in the preceding 7 days of 18.0%, with 9.0% reporting the consumption of 5 or more drinks on at least one occasion in the past 30 days (National Department of Health (NDOH), Statistics South Africa (STATSSA), South African Medical Research, Council (SAMRC), & ICF, 2019). One of the main contributing factors to high rates of HED in the province is the legacy of the *'*dop system', the arrangement by which workers under the former apartheid regime were given alcohol as a benefit of employment (London, 1999). Whilst the consequences of this historical institutionalization of harmful alcohol consumption remain widespread, contributing significantly to the burden of disease, the problem of harmful alcohol use in the Western Cape became more visible as a result of the numerous alcohol sales bans that were implemented as part of the government's response to the COVID-19 pandemic.

In South Africa, a national lockdown was implemented by the government starting 27 March 2020 in order to slow down and stop the spread of the coronavirus. The lockdown limitations on movement, allowing people only to leave their homes to obtain essential items such as food and medical supplies, with all non-essential services being halted. Additionally, the government-imposed lockdown included the complete prohibition of alcohol and tobacco sales. South Africa was one of the very few countries in the world to have enforced such strict lockdown measures. The effects of the hard lockdown, and of subsequent restrictions on alcohol, were seen in the drastically reduced number of trauma cases in hospitals. The mean total number of patients seen at Groote Schuur Hospital, a large tertiary hospital, in Cape Town (Western Cape) decreased by 53% during the hard lockdown period in April and May 2020 (Navsaria et al., 2020). Additionally, patients injured in road traffic accidents decreased by 74% during the hard lockdown period and maintained a reduction of 32% during the immediate post-lockdown period. The mean total number of patients who visited the trauma unit returned to pre-lockdown levels in June 2020, when the ban on alcohol sales was lifted (Navsaria et al., 2020). Similar trends were reported at other regional hospitals, for example the Worcester and George regional hospitals (Chu, Marco, Marco, Owolabi, Duvenage, Londani, Lombard & Parry, 2021; Reuter, Jenkins, De Jong, Reid S & Vonk, 2020). The restrictions on movement and on alcohol sales therefore contributed to alleviating the burden on the healthcare system created by the COVID-19 pandemic. During this time, the Western Cape Government indicated its intention to introduce a minimum unit price (MUP) for alcohol, which the Premier announced in a media briefing "will be fast-tracked". This decision by the WC government is not only due to the Provincial Department of Health's data showing the benefits to the health system benefits during lockdown periods but also was in line with published research which indicated that a 10% increase in the price of alcohol would reduce alcohol consumption

by about 4% among moderate drinkers, by up to 2.5% among binge drinkers, and up to 2% among other heavy drinkers (van Walbeek & Chelwa, 2021). The decision is further supported by alcohol's link to crime and violence. Dealing with this is a priority as alcohol has been linked to 50% of murders and 42.6% of intentional injuries in the province (Western Cape Government Strategic Framework for the Provincial Strategic Plan 2019-2024). The MUP in the WC would be implicitly targeted at cheap alcohol, which in the South African context is predominantly sugar fermented beverages, beer and wine. The Western Cape government's intention is to make beverages with higher percentages of alcohol by volume more expensive.

To this end, the Research Unit on the Economics of Excisable Products (REEP) was approached to conduct research that would be helpful in the drafting of Minimum Unit Price Implementation Guidelines for the Western Cape Government.

1.3. Reflections on Pricing Policies and Minimum Unit Price (MUP)

Global literature suggests that the most common measure by which the affordability of alcoholic beverages can be affected at the local, state or national level is through various forms of taxation. According to a report published by the World Health Organization (WHO) these include, among other things, setting excise duties or value added taxes on alcoholic beverages (World Health Organization, 2019). Raising taxes on alcohol has been listed as one of the three best interventions recommended to reduce harmful drinking and thus the burden of both communicable and non-communicable diseases (World Health Organization, 2019). Besides taxing alcoholic beverages, there are other measures for affecting the affordability of alcohol, such as imposing minimum prices for alcoholic beverages or the regulation of discount prices. When other factors remain unchanged, an increase in alcohol prices generally leads to a decrease in alcohol consumption, and a decrease in alcohol prices usually leads to an increase in alcohol consumption. A wide range of studies have shown that increasing the price of alcohol reduces both acute and chronic harm related to drinking among people of all ages (Anderson, O'Donnell, Kaner, Llopis, Manthey, Rehm, 2021; Wagenaar, Salois, & Komro, 2009).

MUP is a strength-based alcohol pricing policy that requires licensed retailers not to sell alcoholic drinks below a certain minimum price, determined by the alcohol content, i.e., alcohol-by-volume (ABV%), of the drink (Ferguson et al., 2020). Public health advocates and alcohol researchers consider MUP to be an important development for an alcohol harm reduction policy. It is regarded as having the capacity to improve public health and reduce health inequalities (Katikireddi et al., 2014) by impacting heavy drinkers who consume the cheapest alcohol (Hilton et al., 2014). MUP differs from other pricing policies in several ways. First, an MUP introduces a minimum price (price floor) that is uniform across all alcoholic products (Katikireddi et al., 2014) and is calculated on the basis of alcohol content per unit

(a unit is defined as 15 ml or 12g of pure alcohol in South Africa) (Katikireddi and Hilton, 2015). Secondly, an MUP is introduced for reasons of public health as opposed to revenue generation (Katikireddi et al., 2014). Thirdly, MUP and alcohol excise taxes are not in opposition, but they are different in how they work. MUP targets price increases on those who drink the cheapest products (often those who drink most heavily) and are at the greatest risk of harm, unlike taxes which affect all drinkers (Angus et al., 2016).

1.4. Rationale guiding the selection of Scotland, Russia, the Northern Territory, and Botswana as selected case studies

Scotland struggled for six years to overcome industry resistance before the MUP policy was eventually implemented in 2018, becoming the first country globally to pass a law introducing an MUP policy. Scotland's success at implementing an alcohol MUP has therefore attracted much global attention as very few countries have implemented a MUP across all alcohol beverages. There are several reasons for including Scotland in this review. In the first place, there are certain democratic and demographic similarities between Scotland and the Western Cape province. They are roughly equal in population size, around six million (Statistics South Africa, 2018; Scotland's Census, 2021). Scotland is a devolved state with powers to execute its own policies independent of the United Kingdom (Katikireddi and Hilton, 2015), as is the Western Cape. The Western Cape has a provincial government that allows it to enact some policy at the provincial level independently of the national government, although implementing a provincial excise tax is considered not practically feasible. Scotland do not have power to impose excise taxes independent of UK parliament. In terms of alcohol consumption, heavy drinking is prevalent in South Africa and in the Western Cape, as it is in Scotland. At both the national and provincial levels, South African society is exposed to significant alcohol-related diseases and burdens.

Additionally, Scotland has overcome major resistance to the implementation of an MUP, has successfully navigated legal challenges to the MUP, and has a well monitored MUP in place. Scotland can also offer the Western Cape important lessons relating to the issue of potential cross-border trading. One of the counter-arguments that are likely to be made against MUP in the Western Cape is that it might lead to interprovincial purchases from neighbouring provinces. Scotland's experience with this, given that highly populated parts of the country border England, can therefore inform policy around MUP in the Western Cape.

Russia has historically had a very serious alcohol problem. Already in the 1980s the USSR's leadership had identified this as a significant problem and implemented a variety of strategies to reduce alcohol use. Even though the problem is substantially less acute than it was, the WHO rates Russia's pattern of drinking as the worst in the world, in the same group of countries as South Africa. Russia implemented

MUP only on vodka in 2003, failing to implement it across all drink types. The policy was not consistently enforced, and was abandoned at some stage, only to be implemented again later, but at a lower level. Illicit brewing in Russia is substantial, as is argued by the liquor industry to be the case in South Africa. Whilst Russia is certainly not a perfect example of a successful implementation of an MUP, its experience can provide important lessons, particularly cautionary ones.

Northern Territory in Australia. There are three reasons for including the Northern Territory of Australia in this review. Australia's two mainland territories, the Northern Territory and the Australian Capital Territory, do not have state constitutions but they have been granted a limited right of self-government by the federal government, although unlike the Western Cape they do not have powers to apply regional taxes. The Western Cape, like Australia's states, has its own constitution. However, this constitution applies only to the province's executive and legislative branches, and not to the judiciary (Constitution of South Africa, 2006). Secondly, whilst demographically and geographically distinct, the Northern Territory's history with alcohol is not dissimilar to that of the Western Cape. Both have a history of colonisation, in which alcohol was used as a means of payment for indigenous labour, and both prohibited indigenous populations' access to alcohol at some point in their histories. Thirdly, in both the NT and the Western Cape, these factors have contributed to the establishment of risky and unhealthy relationships with alcohol in some sections of the populace.

Botswana: Our initial search for relevant countries and subsequent discussions with alcohol policy experts revealed that relatively few low- and middle-income countries have implemented MUP, none of them from Africa, despite alcohol misuse being a serious problem in several African countries. We did, however, find one country in Africa with a focus on price-and tax-related interventions aimed at reducing the demand for alcohol. In 2008 Botswana implemented a Presidential levy on alcohol. The aim of the levy was to raise the retail price of alcohol and to raise revenue, which would be used to promote public health. This report will therefore also consider the case of Botswana since research conducted by REEP indicates that the retail price of alcohol in Botswana is substantially higher than in South Africa (Van der Zee K & Van Walbeek C, 2019). Whether this has resulted in a reduction in alcohol use in Botswana is not clear, but this will be discussed further below.

1.5. Methods

The following systematically applied strategies were used to source and collate information on the four countries covered in this report.

We conducted literature searches using selected scientific search engines such as Google Scholar, EbscoHost and Pubmed between April-July 2021. Country government websites were also searched for

reports that may have not been published in peer-reviewed journals. Key search terms, such as *alcohol, minimum unit pricing, alcohol policy, evaluation, legalities* and *outcome* were used. Additional search terms were used to obtain country-specific information, specifically *Russian Federation, Soviet Union, Northern Territory* and its abbreviation *NT, Scotland,* and *Botswana, Botswana levy, Botswana levy on alcohol, Botswana Presidential Levy*. No specific timeframe filters were applied to the search. To guide the search process, abstracts of articles which had titles that sounded relevant to the topic and met the search criteria were listed and included in the selection. Further relevant articles were found from references in other articles.

To ensure a sufficient review, contact was also made with a select group of international and local research experts in the area of alcohol policy who were involved in the implementation of MUPs in the selected countries or in the evaluation of the alcohol levy in Botswana, so as not only to enhance the case studies by their experiences but also to obtain reports that may have been missed during the initial search process. These experts included academics from Sheffield University (including Ms. Gibbs who contributed to this report) and the university's large repository of literature on alcohol research, including MUPs, that they were able to put at our disposal, as well as local South African experts (mostly academics) on alcohol policies. Three students with postgraduate degrees in economics were employed to conduct the country reviews.

1.6. Structure of the Report

Chapters two and three will provide a detailed review of locations (Scotland and the Northern Territory of Australia) that have successfully implemented MUP. Chapter four outlines the Russian experience of applying an MUP to spirits and chapter 5 discusses the presidential levy introduced in Botswana. Chapter 6 provides a summary of the lessons learned during the implementation of MUP and other pricing policies in the respective countries.

CHAPTER 2: SCOTLAND

Background

Scotland was the first country globally to pass a law introducing an MUP policy, in May 2012 (Katikireddi et al., 2014; Hilton et al., 2014), and successfully implemented it in May 2018 following a long legal battle (Holmes et al., 2018). Alcohol plays a critical role in Scottish cultural life and Scotland is particularly known for its whisky production (The Scottish Government, 2009). Scotland has high alcohol consumption levels compared to the other UK member states, namely Northern Ireland, England and Wales (Hilton et al., 2014). Furthermore, sales data for Scotland showed that many men and women exceeded the Chief Medical Officer's recommended daily and weekly limit guidelines on drinking (Department of Health, 2016), and that this has contributed to high levels of alcohol harm in this country (The Scottish Government, 2009).

As in other parts of the world, high alcohol consumption in Scotland was associated with hospital admissions and stays that emanated from alcohol-related injuries and diseases. Rates of alcohol-related hospital stays rose steadily between the 1980s and 1990s, followed by a steep increase in the 2000s and a peak of 855 per 100,000 population in 2007. Since 2014, the rates of alcohol-related hospital stays have been stable. Between 1981 and 2005, alcohol-related deaths increased, and from 2006 to 2019 they saw a decline. Various explanations are offered for this trend including changes to policy, social norms and the market (McCartney et al., 2016). Despite this decline, the alcohol-attributable death rates in 2019 were 2.3 times higher than in 1981 (Richardson & Giles, 2021). The levels of harmful consumption of alcohol were more pronounced in Scotland than in other countries in the United Kingdom (Katikireddi et al., 2014) and the rest of Europe (Katikireddi et al., 2013), with the country's alcohol-attributable death rates twice as high in men and 75% higher in women in Scotland compared with England and Wales (Giles & Robinson, 2018).

It has been argued that the central driver behind high alcohol consumption rates and the associated increasing harms is the affordability of alcohol, that is, the sale of cheap alcohol (The Scottish Government, 2009; Hilton et al., 2014; Katikireddi et al., 2014). In 2018, Scottish alcohol was 60% more affordable than in 1980 (The Scottish Government, 2018). Equally important, alcohol was promoted and made affordable like other essential commodities such as bread and milk. That is, alcohol was made affordable on the basis that it was a need, rather than a luxury good (The Scottish Government, 2009). The search for a solution that targeted the affordability of alcohol, heavy drinking, and alcohol abuse led to the emergence of the MUP (The Scottish Government, 2009).

The rationale for the emergence of MUP in Scotland was therefore based on strong and consistent empirical evidence of the relationship between alcohol price, consumption, and related harms (Hilton et al., 2014). Further evidence has indicated that pricing interventions per unit of pure alcohol could mainly target heavy drinkers. Specifically, data from the University of Sheffield Alcohol Model indicated that an MUP of 50 pence[3] (roughly ZAR10) per unit (10 ml of pure alcohol) could reduce population-wide alcohol consumption in Scotland by an average of 3.5% (26.3 units) per drinker per annum, and the consumption reduction would be concentrated amongst the harmful drinkers. It was further estimated that, during the first 20 years, MUP would lead to 2,000 fewer alcohol-related deaths and about 40,000 fewer hospitalizations. Upon reaching its full effect (i.e., after 20 years), it was estimated that alcohol-attributable deaths and hospital admissions would decline by 120 and 2,000 per year, respectively (Angus et al., 2016).

History, Arguments, and Counter-Arguments for MUP

Scotland's journey to implementing an MUP on alcohol took roughly a decade before the MUP came into effect. The first mention of an MUP in Scotland was in the 2007 report by the Scottish Health Action on Alcohol Problems (SHAAP) (SHAAP, 2007, cited in Meier et al., 2017). In 2009, MUP legislation was introduced in the Scottish parliament as part of the 2009 Alcohol Strategy to tackle Scottish alcohol problems. However, it was supported by only one party in government, the Scotland National Party (SNP) (Katikireddi et al., 2014). Although the SNP was a minority party of the government, it was very eager to pass the MUP legislation in November 2009. Nonetheless, despite their ambition and efforts, the MUP was ignored entirely and withdrawn from the legislative proposals presented to parliament a year later, i.e., in November 2010 (Katikireddi et al., 2014).

In May 2011, Scotland held parliamentary elections, in which the SNP won a majority of the seats. Consequently, a second MUP bill was introduced. As the ruling party, the SNP government no longer needed the support of the opposition to pass the legislation. This time, also, two-thirds of the opposition parties supported the MUP, although with a condition, known as the "sunset clause", that the MUP legislation would expire at some future date unless voted for again. Ultimately, on the 24th of May 2012, the MUP legislation passed successfully, with 86 (72.3%) parliament members supporting an MUP on alcohol products, 1(0.8%) voting against it, and 32(26.9%) abstaining (Katikireddi et al., 2014). Having passed the legislation, the Scottish government intended to implement the MUP policy in April 2013. However, implementation was delayed by six years due to various legal challenges initiated by the Scotch Whisky Association and other opponents of the MUP (Katikireddi et al., 2014).

[3] 50 pence can be written as GBP0.50 or £0.50.

The path to implementing the MUP in Scotland was long and winding. There were both advocates for and critics of MUP. In the earlier debates about MUP, the main protagonists were the SNP and the three prominent policy entrepreneurs behind MUP: (1) the PhD candidate who researched the relationship between the price of alcohol, alcohol consumption, and alcohol-related harms, (2) Scotland's first deputy minister, and (3) the Chief Medical Officer (Katikireddi et al., 2014). Other important supporters of MUP were the then UK prime minister: David Cameron, the Scottish Police, public health organizations, and UK academics, specifically the University of Sheffield's health economists (Hilton et al.,2013; Katikireddi et al., 2014; Fergie et al., 2018). The alcohol organizations and charities, namely Alcohol Focus Scotland and Alcohol Concern, were also key advocates supporting the MUP (Hilton et al., 2014; Katikireddi et al., 2014; Fergie et al., 2018).

The protagonists' overarching argument was that MUP would have a larger and more focused impact on health compared to other price policies such as alcohol excise tax. The MUP would mainly affect heavy drinkers by curbing alcohol use and associated alcohol-related harms. They categorized their arguments into different themes (Katikireddi et al., 2014). First, the MUP was supported for its potential to change drinking patterns and preferences. Since MUP would apply a uniform minimum unit price per unit of pure alcohol to all alcoholic products, the consumption of high-strength alcoholic drinks would be expected to decline due to higher prices. Hence, advocates of the MUP believed that high-strength drinks would be substituted with low-strength drinks, which are considered to be less likely to cause harm (Katikireddi et al., 2014).

Secondly, advocates linked MUP to inequality reduction. The argument was that heavy drinkers, also ones who are poor, are less price-sensitive than moderate drinkers and both would likely have high alcohol expenditure when an MUP is implemented. However, since an MUP would reduce alcohol affordability, the poor would decrease their consumption by more than the rich. In this way, health inequalities driven by alcohol use would be reduced. Similarly, alcohol spending would be less regressive, that is, high alcohol spending would be less likely to be undertaken primarily by the poor. As alcohol prices would be raised to a particular minimum threshold, supermarkets would no longer use alcohol as a loss leader. Compared to the price of alcoholic beverages, the price of non-alcoholic products (which are considered less harmful and healthier) would be cheaper, and they would be promoted (Katikireddi et al., 2014).

Lastly, the arguments were framed on economic grounds. Proponents argued that MUP is unlikely to result in job losses, as a higher price threshold would result in higher profits for businesses. Since MUP was intended to curb binge drinking, there would be less work absence. Less work absence implies a more productive labour force, which positively affects economic growth. They also argued that

implementing a non-price intervention alone is ineffective for curbing binge drinking and alcohol-related harms. They supported the MUP as a crucial component of the policy, alongside broader non-price alcohol interventions such as education on alcohol (Katikireddi et al., 2014).

On the other hand, the opponents of the MUP were mainly drawn from the alcohol industry, but not exclusively (Katikireddi et al., 2014). The alcohol industry in Scotland is known for extensive lobbying activity (McCambridge et al., 2013). It has built and maintained long-lasting relationships with policy-makers to influence policymaking consistently in its favour. However, if the alcohol industry's relationships with policymakers failed to produce results, it would then threaten and conduct legal challenges under national and international laws, which is what occurred (McCambridge et al., 2013).

The opponents' coalition was led by the Scotch Whisky Association and the Spirits Trade Association. They also included Alcohol Industry Manufacturers, Alcohol Trade Organizations, large supermarkets, some academic institutions (the University of Birmingham -Department of Public Health) and the Glasgow Caledonian University -Department of Public Health and Department of Business Studies and Philosophy), some economic think tanks (Adam Smith Institute, Centre for Economics and Business Research, and Centre and Institute for Economic Affairs). Surprisingly, the foremost political critic, the then Health Minister, Andrew Lansley, was also one of the MUP's opponents. The economic think tanks mainly ensured that there was consistency in the arguments used against the MUP by the opponents' coalition (Fergie et al., 2018). The Health Minister's argument was that the Scottish alcohol problem was caused by minority sub-groups (youth binge drinkers and dependent drinkers) within the population. Therefore, an MUP would not be effective as it would affect the entire population, punishing responsible drinkers and the poor (Hilton et al., 2014).

The economic consultancy firm, the Centre for Economics and Business Research (CBER), received funding from the alcohol industry to conduct a study that consistently criticized the University of Sheffield's MUP model, in particular arguing that the policy would not target heavy drinkers. The CBER argued that heavy drinkers' demand for alcohol was inelastic and they would continue to buy alcoholic drinks despite the price. They indicated that an MUP would increase consumer's expenditure on alcoholic drinks, benefitting the retailers and supermarkets, while not fully achieving its primary objective of reducing drinking and alcohol-related ills (Katikireddi et al., 2014; Fergie et al., 2018).

The MUP's opponents also included the European Union (EU) Commission, the Law Society, the European Spirits Organisation, and the Scottish Labour Party. They argued that the MUP policy was illegal (Fergie et al., 2018). The arguments about the illegality of the MUP are discussed in detail in section 3. While the central argument of all the opponents was based on the illegality of MUP (Fergie et al., 2018), there were many additional arguments against the MUP. The majority of critics agreed

that Scotland suffered from a significant burden of alcohol-related harm. However, they argued that an MUP would harm businesses, as many believed a large section of the alcohol market would be lost, and that an MUP would fuel a growing illicit alcohol trade (Patterson et al., 2014; Katikireddi et al., 2014; Katikireddi et al., 2015; Fergie et al., 2018).

Counter-arguments were also made to points raised by the proponents. First, the opponents argued that the strength of alcoholic drinks might be increased if an MUP was introduced, as they would become very profitable at the higher minimum prices and would therefore be marketed more heavily. Secondly, it was argued that, at the household level, poverty levels in heavy-drinking households might be worsened if heavy drinkers would not reduce their alcohol consumption after MUP increased the price. In addition, opponents believed MUP might result in job losses in many alcohol-related industries, which would increase the unemployment rate and hurt the entire economy. Finally, they pointed out that the increased revenue from the MUP would go to the private sector, and the government would not benefit from MUP generated revenues (Katikireddi et al., 2014).

Legal issues on the implementation of the MUP

The MUP policy faced legal challenges mainly from the alcohol industry and other opponents: the European Union (EU) Commission, the Law Society, the European Spirits Organisation, and the Scottish Labour Party (Hilton et al., 2014; Katikireddi et al., 2014; Fergie et al., 2018). The debate over the legality of MUP built a coalition among its opponents (Fergie et al., 2018). The legal battle following the MUP legislation passed in parliament in May 2012 lasted for five years. It was argued in five different courts: first in the Scottish Court of Session (in 2012-2013), with subsequent appeals to the Scottish Lower Court of session (from 2013 to 2016), and the European Court of Justice (ECJ) from 2014 to 2015, and then a final appeal to the UK Supreme Court from 2016 to 2017 (Holmes et al., 2018). The main legal argument was that the MUP policy was illegal and against European Law as it would restrict the free movement of goods within the EU (Holmes et al., 2018), hurting Scotch whisky exports (Hilton et al., 2014). The argument emanated from the fact that the earlier policy on minimum prices on cigarettes had been prohibited for a similar reason (Holmes et al., 2018).

The opponents' lobbying strategy focused on the opposition members of parliament, who had a limited role in actual government and mostly supported big businesses as their means of impacting government decision-making and getting support to get into government themselves (McCambridge et al., 2013). Before 2010, the opposition parties in parliament were key supporters of the industry's efforts to prevent MUP (Hawkins and McCambridge, 2020). Later, the alcohol industry had the backing of influential media opponents of MUP. Although the SNP ensured that MUP legislation passed successfully in parliament, despite the challenges, the alcohol industry never gave up. They opposed MUP adoption in

the agenda-setting, policy formulation, and legislative stages, and their strategy finally delayed the MUP implementation (McCambridge et al., 2013).

In the legal battle, the MUP's proponents' argument was backed by research evidence from The University of Sheffield Alcohol Research Group that showed MUP had the potential to target heavy drinkers and reduce ills caused by alcohol use (Katikireddi et al., 2015; BBC News, 2015; Holmes et al., 2018). In December 2017, the UK Supreme Court supported the implementation of the MUP. It declared that it could be legally implemented under European Law (Holmes et al., 2018). Ultimately, the MUP came into effect in Scotland in May 2018 with a "Sunset Clause". This means that the policy will be in place for six years. After that period, in May 2024, it will cease to exist unless the Scottish Government votes the policy into law again. This will be informed by evidence on whether it has negatively or positively impacted alcohol misuse and its associated harms. The MUP legislation also made it mandatory that the operation and effects of MUP be reported to the parliament by the end of the fifth year, i.e., a year before the law expires (Holmes et al., 2018; Beeston et al., 2020).

Technicalities of the MUP

Implementation Process

The MUP was implemented following the Alcohol Minimum Pricing (Scotland) Act of 2012. MUP is applied to all alcoholic drinks in Scotland and depends on the alcohol content of the beverage, measured in units. A unit in Scotland is 10 ml or 8 grams of pure ethanol; in South Africa a standard drink unit is currently defined as 15 ml (or 12 g) of pure ethanol. MUP is applied at the retail level, that is, to all businesses, organizations and persons required to hold trade licenses for their premises, at the value of 50 pence (£0.50 or GBP0.50)[4] per unit of alcohol. This means that the MUP is not applied to alcohol sold in informal and unlicensed premises, such as the homemade brews.[5] The minimum price on any alcoholic product is calculated as follows:

$$\begin{aligned} Price &= MUP \times 100 \times Strength\ of\ Alcohol \times Volume\ of\ Alcohol\ in\ litres \\ &= GBP\ 0.50 \times 100 \times ABV\% \times Volume\ of\ alcohol\ (litres) \end{aligned}$$

The MUP applies to all sales within Scotland of alcoholic products with alcohol strength, measured by an ABV, of above 0.5%. It is permissible for traders to buy alcohol outside Scotland to sell in Scotland at the higher minimum price (when the MUP is applied) (The Scottish Government, 2018). Retailers

[4] The University of Sheffield Alcohol Model played a significant role in deciding the level (i.e. 50 pence) at which the MUP should be set.

[5] In Scotland, this refers to craft beer. It first became popular in 2010 and is not yet considered problematic like other alcoholic drinks which have existed for a long time (BBC News, 2018).

are still permitted to sell liquor at a discount, but the discounted price must still be above the MUP (The Scottish Government, 2018). In 2012, when MUP legislation was passed in the Scottish parliament, it was set at GBP 0.50, and, six years later when the policy was implemented, it was still set at the same value. The implication is that the MUP policy did not take into account the inflationary[6] pressures in the time period between the passing of the legislation and implementation, nor has the MUP been increased since implementation.

To demonstrate how the MUP of 50 pence on different alcoholic drinks is applied, consider the following three examples obtained from the 2018 Scottish Government report.

a) Following the MUP, a 700 millilitre(ml) bottle of spirits with an ABV of 37.5% has a minimum price of:

$$Price = GBP\ 0.50\ \times 100\ \times\ 37.5\%\ \times 0.7\ litres$$

$= \boldsymbol{GBP\ 13.13}$ **(~ZAR260)**

b) A 500 ml of a can of beer with an ABV of 9% has a minimum price of :

$$Price = GBP\ 0.50\ \times 100\ \times 9\% \times 0.5\ litres$$

$= \boldsymbol{GBP\ 2.25}$ **(~ZAR45)**

c) A 2 litre bottle of cider at 6% ABV has a minimum price of:

$$\text{Price} = \text{GBP } 0.50\ \times 100\ \times 6\% \times 2\ \text{litres}$$

$= \boldsymbol{GBP}$ **6.00** ***(~ZAR119)***

Enforcement and Compliance of the MUP

Local authority Licensed Standards Officers (LSOs) are responsible for managing compliance with MUP and ensuring all the required licensing conditions are met. The LSOs are officers appointed by each Scottish Council for a specific area, and they have been responsible for supervising premises' licensing conditions for a long time. The MUP became an additional responsibility for them. They assisted the retailers to understand how the minimum prices for different products were calculated based on the alcohol strength and, ultimately, in applying the MUP law. The Trading Standards Officers and Police Officers also played a vital role in the inspection and enforcement of the MUP. Their enforcement activity crucially focused on encouraging, rather than forcing, compliance among licensed retailers (Dickie et al., 2019).

[6]Because of the long legal battle, the MUP value wasn't adjusted for inflation. However, it is intuitive that South Africa should take inflation into account when implementing an MUP since, if inflation is not accounted for, the price per unit will be lower in real terms than it should be and inflation rises by a substantially higher percentage each year than in a country like Scotland.

Evaluation of the impact of MUP

Overview and Objectives

In 2018 the Scottish government tasked the National Health Service (NHS)[7] Health Scotland with leading evaluations on the effectiveness of the MUP policy. The central objective was to provide robust and comprehensive empirical evidence of the MUP's impact, to shed light on whether it achieves its objective, and to inform the parliamentary vote on whether to continue with MUP after six years. Accordingly, the evaluations of the MUP have focused on four themes: (1) implementation of and compliance with the MUP, (2) Alcohol consumption, (3) impact on the Alcohol Drinks Industry, and (4) Health and Social Harms. Specifically, within these themes, the outcomes assessed so far and those planned to be assessed in the future are:

- Compliance of retailers with the price of alcoholic products sold below GBP0.50 per unit and behaviour (general responses and actions) of the alcoholic drinks industry following the MUP.
- Alcohol consumption levels, changes in drinking patterns, and the alcohol brands consumed.
- Alcohol-related health outcomes (mortality and morbidity).
- Alcohol-attributable crime outcomes, which include victimisation and participation in anti-social behaviour.
- Unintended consequences, such as substitution to non-beverage alcoholic drinks or other illicit drugs, diversion of household expenditure from necessities, alcohol theft, impacts on drinkers' family members, to mention only a few.

The MUP evaluation results will be made available in four phases, as shown in Table 1:

Table 1: MUP Evaluation timeline

Phase	**Time Period**	**Results**
Phase 1	0 – 12 months (2018 – 2019)	Early Anecdotal and Preliminary Data
Phase 2	12 – 36 months (2019 – 2022)	First robust evaluation results
Phase 3	36 – 60 months (2022 – 2024)	Primary period for evaluation results
Phase 4	60+ months (2024+)	Accumulation of additional evidence

[7] NHS Health Scotland is now called Public Health Scotland. Note that these two terms are used interchangeably in this report.

Source: Author's own compilations using information from the NHS Health Scotland Website and Holmes (2018).

To date, there are some evaluations of the MUP published as journal articles and reports, as presented in Table 2.

Table 2: Evaluation Studies on MUP published to date

Authors	Study	Publication Type	MUP Evaluation Theme	Key Message
O'Donnell et al. (2019)	Immediate impact of minimum unit pricing on alcohol purchases in Scotland: Controlled interrupted time series analysis for 2015-18.	Journal Article (BMJ)	Alcohol Consumption	MUP introduction resulted in an average increase of GBP0.05 (~ZAR1.01) of alcohol price per unit and an average decline of 7.6% in alcohol consumption per adult in a household in a week. The consumption reductions were greater in lower-income households than in higher-income households.
Giles et al. (2019)	Minimum Unit Pricing (MUP) Evaluation. Sales-based consumption: a descriptive analysis of one year post-MUP.	NHS Health Scotland report	Alcohol Consumption	Off-sales based alcohol consumption at the population level fell in Scotland and rose in England and Wales in one year after the MUP was implemented.
Frontier Economics (2019)	Minimum Unit Pricing. Evaluating the impact on the alcoholic drinks industry in Scotland: Baseline evidence and initial impacts.	NHS Health Scotland report	Alcohol Drinks Industry and Alcohol Consumption	Generally, MUP resulted in a decline in the sales of alcoholic drinks, with sales decline more pronounced on the products that were previously sold below MUP. Consumers switched to alcoholic products in smaller sizes, and to other alcoholic and non-alcoholic products.
Ferguson et al. (2020)	Public attitudes to Minimum Unit Pricing (MUP) for Alcohol in Scotland	Public Health Scotland report	Compliance and Implementation	Attitudes towards the MUP were generally more positive than negative after the MUP was implemented.
Stead et al. (2020)	Evaluating the impact of alcohol minimum unit pricing in Scotland: Observation study of small retailers	The University of Sheffield and University of Stirling joint report.	Implementation and Compliance, and Alcohol Drinks Industry	MUP has been implemented as intended and resulted in expected increases in prices of the alcoholic products that were sold below 50 pence per unit.
NHS Health Scotland (2020)	Briefing: The impact of MUP on children and young people's own drinking and related behaviour.	NHS Health Scotland report	Health and Social Harms	MUP was not perceived to impact the alcohol consumption of young people (13 – 17 years) either positively or negatively.

Richardson and Giles (2021)	Monitoring and Evaluating Scotland's Alcohol Strategy: Monitoring Report 2021.	Public Health Scotland report	Health and Social Harms	Alcohol-specific death rates declined post-MUP, between 2018 and 2019, but continued to be higher than in England and Wales. They have increased since Covid-19 likely due to increase in isolation from healthcare and treatment services.
Buykx et al. (2021)	Impact of Minimum Unit Pricing among people who are alcohol dependent and accessing treatment services: Interim report: Structured interview data.	Public Health Scotland report	Health and Social Harms	There was no evidence on the concerns about the MUP resulting in increased use of illegal alcohol or other substances among alcohol-dependent people.

Source: Author's own compilation using some of the available MUP evaluation studies.

Evaluation of Compliance and Implementation of the MUP

As part of Monitoring and Evaluating Scotland's Alcohol Strategy (MESAS)'s evaluation of MUP, Ferguson et al. (2020) used three waves (2013, 2015 and 2019) of the nationally representative Scottish Social Attitudes Survey to understand people's attitudes towards the MUP before and after it was implemented. The attitudes towards the MUP were generally more positive (supportive) than negative in the 2015 – 2019 period, which included the MUP period of implementation. The proportion of adults supporting MUP increased from 41.3% in 2015 to 49.8% in 2019. Concomitantly, the proportion of people against MUP declined from 33.4% (2013) to 27.6% (2019).

The results further indicated no difference between the proportion of men and women in support of the MUP for the period 2015-2019. Older people were more supportive of the MUP than young people. The main reason given in favour of the policy was that it would help Scotland tackle problems caused by alcohol. Among the criticisms of the MUP, the common reason given was that people who drink alcohol heavily would do so irrespective of the price. They argued that MUP would not make any difference to heavy drinkers' drinking habits.

Stead et al. (2020) found that retailers took compliance very seriously and there were minimal instances of non-compliance. Overall, the evaluation of the implementation of the MUP revealed that it was straightforward and implemented as intended. It produced results as expected, specifically in increasing alcohol prices that previously were below the MUP level. Following the MUP implementation, retailers either complied with the MUP by increasing the price of alcoholic products previously sold below GBP0.50 per unit or completely stopped selling products that were most affected by the MUP, such as ciders. Similarly, alcoholic products sold above GBP0.50 per unit generally increased their prices by varying degrees. However, it was unclear whether the prices increased further because of MUP or external price determinants such as inflation. Generally, there was no evidence that the MUP caused a decrease in some prices (O'Donnell, 2019).

Evaluation of the impact of the MUP in the alcoholic drinks industry

After the implementation of the MUP, the price distribution was narrowed by the change in the price of alcohol, both within and between various alcoholic drink categories. There was also a substantial increase in the number of products sold precisely at the level of MUP or above it (Stead et al., 2020). There were some changes observed in the types of alcoholic products sold, but not all of them were due to the MUP. Of the changes attributed to MUP, there was an introduction of lower-strength products and smaller container sizes for products significantly affected by the MUP. MUP directly affected both higher-strength

and lower-strength products which were previously sold below GBP0.50 per unit. Nonetheless, the effect was more pronounced for the low-cost, high-strength products (Stead et al., 2020).

Among alcohol brands, the price of high-strength ciders appeared to be most affected by the MUP policy and there was a resulting decline in sales. On the other hand, there was an increase in the sales volumes of ready-to-drink (RTD)[8] alcohol. There was no noticeable effect identified in product ranges for other products after MUP implementation (Stead et al., 2020). The change in price due to MUP was similar across beer, wine, and spirits, and highest among the ciders in the eight months following the introduction of the MUP. It did not impact ready-to-drink products (O'Donnell et al., 2019) and fortified wines (such as Buckfast Wine with a 15% ABV and Frosty Jacks with a 7.5% ABV) (Giles et al., 2019) as they were already priced above the MUP threshold.

Cheaper high–strength alcoholic products that were previously sold below GBP0.50 per unit increased their price to comply with the MUP or were delisted entirely from the retailers' stores. Alternatively, producers reformulated (reduced the alcohol strength of the product) or reduced the size of the bottle in order to maintain their previous price point so as to remain attractive to consumers (Frontier Economics, 2019; Stead et al., 2020).

MUP implementation resulted in retailers changing the way high-strength alcoholic products were promoted. Before MUP, the most common promotion strategy for alcoholic products was price marking (printing the price on the packaging of the product). Three months after the MUP implementation, there was a reduction in price marking among alcoholic drinks, especially for cider and perry (cider made from pears)[9], which faced substantial price increases due to the MUP. In addition, the proportion of ciders sold as separate containers, instead of multipacks, increased. Other minor changes in the marketing promotions, such as price cues (a label attached to the product or on the shelf edge to draw attention to the price), and interactive promotions (prize draws) were observed on a minority of products, but it was unclear whether those changes were associated with the MUP (Stead et al., 2020).

There was mixed evidence of the MUP's impact on retailers' profitability. First, despite the MUP resulting in increased prices, it had a small negative effect on producer or retailer revenue and profit. This was

[8] Ready to drink beverages (RTDs), as the name suggests, are defined as drinks packed in containers for immediate consumption. According to Anderson et al. (2012), RDS are subdivided into four categories: malt-based, spirit-based, wine-based, and other RTDs. These usually have an alcohol content ranging from 5% to 10%.

[9] In Scotland, perry as a brand of cider made from pears is often differentiated from cider made from apples, but in South Africa perry and cider are treated as one thing, "cider".

because the MUP reduced the volume of alcoholic drinks produced and sold in Scotland. However, there were no reported closures of alcohol retailers or reduction in employees due to MUP (Frontier Economics, 2019). In contrast, Stead et al. (2020) found that MUP improved small retailers' profit margins for some alcoholic products and their ability to compete with supermarkets on alcohol sales.

Evaluation of the MUP's impact on alcohol consumption

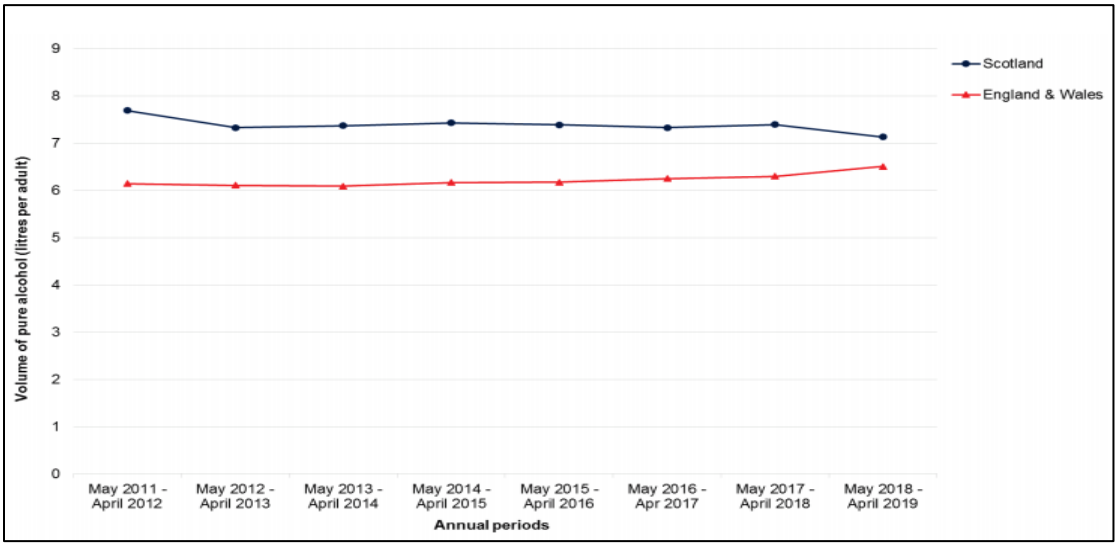
a) Domestic Consumption

The initial evaluation (after the first three months) of the implementation of the MUP indicated a shift in the buying behaviour of drinkers (Stead et al., 2020). Consumers moved from consuming higher-strength to lower-strength alcohol (Stead et al., 2020). However, the switching behaviour was limited by consumers' alcohol brand loyalty and occasion-based purchases (Frontier Economics, 2019). Other than that, they opted for alcoholic products in smaller container sizes. Nevertheless, within the same period, there was no evidence of consumers switching to non-alcoholic beverages or other drugs, or reducing their spending on household necessities to increase budgetary allocations for alcohol (Stead et al., 2020).

In the eight months following the implementation of the MUP, average weekly alcohol consumption dropped from 134.5 g (168.1 ml) to 125 g (156.3 ml) on average per adult in a household. This is equivalent to a reduction of 9.5 g or 11.8 ml (7.6%), a little over one unit of alcohol, per adult in a household. There was a significant drop in alcohol consumption for beer, spirits and ciders (the products most affected by the MUP), an insignificant drop in the consumption for wine, and no effect on the consumption of fortified wine and ready-to-drink products. Consequently, the policy was considered to have attained its central objective of making cheaper, high-strength alcoholic products less affordable in order to improve public health (O'Donnell, 2019). The reductions in weekly alcohol purchases were particularly pronounced in the top 20% of the highest alcohol-purchasing households in lower-income brackets, compared to those in higher-income brackets (O'Donnell, 2019).

At the population level, in a one-year evaluation following the introduction of an MUP, Scottish alcohol off-sales (alcohol bought for consumption at home) per adult declined by 8%, from 7.7 litres (in May 2011 - April 2018) to 7.1 litres (in May 2018 – April 2019). In contrast, as shown in Figure 1, over the same period, alcohol sales increased in England and Wales. Further, before the MUP was implemented, weekly alcohol sales in Scotland were consistently higher than in England and Wales. After the MUP was implemented, the gap between alcohol sales in Scotland and Wales narrowed, especially during vacation periods (Christmas and New Year).

Figure 1: Yearly (April – May) off-trade alcohol sales in litres per adult in Scotland and England & Wales from May 2011 – April 2019



Source: Giles et al. (2019)

By alcohol brands, after the MUP, beer and cider off–sales per adult declined in Scotland to an extent that they were lower than in England and Wales. The spirits and wine off-sales per adult also declined in Scotland, but they continued to be higher than in England and Wales. Fortified wine was the only alcohol brand whose off-sales increased following the policy. The reason for this was probably that the fortified wine price was not affected by the MUP and the increase in the price of other alcoholic products might have encouraged a shift to fortified wine, which would have become relatively closer in price to other beverages (Giles et al., 2019).

b) Cross-Border Activity

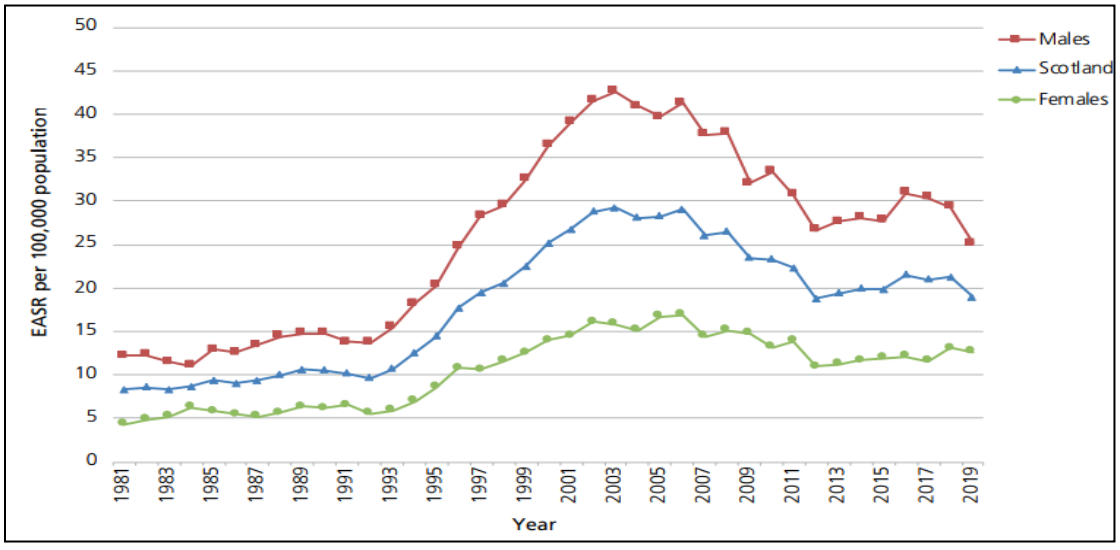
Although off-sales of some alcoholic drinks fell in Scotland and increased in England & Wales following implementation of the MUP, there was no evidence of large-scale cross-border activity (buying alcohol from nearby border towns in England for consumption in Scotland) (Giles et al.,2019). However, there was some evidence of cross-border purchasing behaviour among individuals living within 15km of the England border, and in particular those living near major English towns (Frontier Economics, 2019). Cross-border purchasing pre-dated MUP implementation since it has been regular practice by Scottish people who work

and do their grocery shopping in English towns such as Carlisle or Berwick-upon Tweed (Giles et al., 2019; Frontier Economics, 2019).

Evaluation of the MUP impact on Health and Social Harms

When considering the issue of Health and Social Harms, the evaluations focused on the impact of the MUP on protecting children from the harmful effects of their own drinking, or exposure to others' drinking, and on individuals' harmful drinking, hospital admissions, and deaths (NHS Health Scotland, 2021). Evaluation of the impact of MUP on alcohol-attributable deaths revealed that, between 2018 and 2019, alcohol-specific deaths declined for both men and women. The alcohol-specific death rate continued to be higher among men than among women. In 2019, the number of alcohol-related deaths was 1020, which is an average of 20 deaths per week. The decline in alcohol-specific deaths was more pronounced among men in the post-MUP period, 2019 (see Figure 2) (Richardson and Giles, 2021). However, it should be noted that men's death rates were already on the decline before MUP and recent data has shown an increase since Covid-19. Despite this period of decline in alcohol-related death rates for both genders, Scotland's death rates are still higher than those of England and Wales (Richardson and Giles, 2021). This is likely due to cirrhosis and chronic related conditions; it will take a long time for the impact of MUP to filter through, it may now be more difficult to see the evidence in the data as world events have overshadowed the positive impact of the policy.

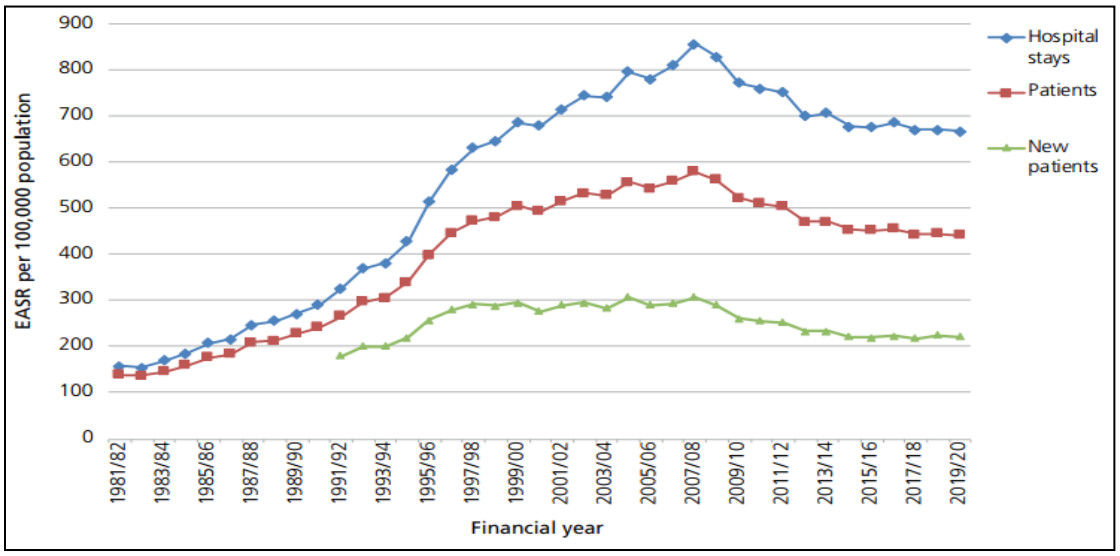
Figure 2: Alcohol-specific deaths in Scotland by gender, 1981- 2019



Source: Richardson and Giles (2021). Notes: EASR stands for European Age-Sex Standardized Rate. The blue line represents the death rate for males and females combined.

In 2019/2020, i.e., before the Covid-19 pandemic, the effect of MUP on alcohol-related hospital admissions and stays was not yet noticeable. The 2019/20 rates of alcohol-related hospital stays were roughly four times those of the 1980s and early 1990s. As shown in Figure 3, following the MUP the trend in alcohol-related stays of patients in hospitals and new hospital admissions was the same as in the pre-MUP implementation period, implying that MUP had no clear effect on alcohol-related stays of patients and new hospital admissions (Richardson and Giles, 2021). However, the detailed report, focusing solely on the MUP's effect on alcohol-related hospital admissions, is expected in early 2023 (NHS Health Scotland, 2021).

Figure 3: Alcohol-related hospital admission rates in Scotland, 1981/82 - 2019/20



Source: Richardson and Giles (2021)

The available evidence on the MUP's role in protecting young people (13 – 17 years) from their own alcohol consumption and harm revealed that the majority of young people continued to buy alcohol despite the rising prices as a result of the MUP. The young people surveyed indicated that the price increase was not much, and that alcohol was still affordable, although a few indicated that the MUP had caused them to reduce their drinking because of their limited budget (NHS Health Scotland, 2021). Overall, the introduction of an MUP was not perceived to be effective in significantly changing the drinking behaviour of young people. Similarly, there was also no evidence of a change in any alcohol-related harm experienced by young people (NHS Health Scotland, 2021).

Lastly, the evidence of the impact of MUP on alcohol-dependent people revealed that concerns about the MUP resulting in increased consumption of other illicit drugs had not been realized. Although, there was some evidence that a small minority of alcohol-dependent people shifted their expenditure from essentials such as food to alcohol following the MUP, there was a sharp fall in the proportion of people who consumed very cheap alcoholic products. The report on the impact of the MUP on the overall consumption levels of harmful drinkers and the severity of the alcohol dependence for those accessing the treatment services is ongoing and is expected in 2022 (Buykx et al., 2021).

Conclusion

The implementation of an MUP in Scotland and the evaluation of its impact have many lessons for South Africa. Scotland has some democratic and demographic similarities with South Africa. In the first place, the Western Cape Province and Scotland are roughly equal in population size, around six million (Statistics South Africa, 2018; Scotland's Census, 2021). Secondly, Scotland is a devolved state with powers to execute innovative policies independently of the United Kingdom (Katikireddi and Hilton, 2015). The Western Cape, similarly, has a provincial government separate from the national Government, allowing it to execute decisions at the provincial level independently. Furthermore, in terms of alcohol consumption and abuse, heavy drinking is common in South Africa, as it is in Scotland. At the national and provincial levels, South African society is exposed to significant alcohol-related diseases and burdens (van Walbeek and Chelwa, 2019).

In the process of implementing MUP, the Scottish National Party (SNP) played a critical role in the successful passing of MUP legislation in parliament and its implementation. The success of a high-profile policy such as MUP depends on whether the governing party fully supports the policy. It is equally important to recognize that, even though the MUP was strongly supported by the Scottish Government, it faced a six-year legal battle led by the Scotch Whisky Association, which delayed implementation. The Western Cape Government may experience a similar challenge from the alcohol industry. However, it is worth noting that the policy has passed more smoothly in Northern Ireland, Wales, and the Republic of Ireland where it has now been adopted without significant delays.

The Scottish Alcohol Industry's main role was to delay the implementation of the MUP. The industry further ensured that the policy is implemented with a sunset clause, that is, ending after 6 years, instead of allowing the policy to reach its full effect (i.e., after 20 years) as predicted by the University of Sheffield Alcohol model. The delay in implementation was exacerbated by the fact that lobbying by the Scottish

alcohol industry was extensively done and the alcohol industry-built relationships with the opposition members of the parliament. In this respect, tobacco-control legislation could be relevant to the alcohol policy debate.

The MUP was a very high-profile policy, giving rise to a variety of different attitudes and opinions among those in government and in the alcohol industry. Given that the policy had support from the government and being undertaken for the benefit of public health, it is surprising that the then Scottish Health Minister was one of the main opponents of the policy. Similarly, not all organizations in the alcohol industry were against the policy. Some viewed it as a positive policy. There were many surprising sources of criticism and support for the MUP during the pre-implementation stage. Both the support and criticism came from Public Health academics, prominent government officials and economic think tanks. The Western Cape may have a similar experience. Nevertheless, the support for MUP increased significantly, especially among older people, after the MUP came into effect.

The MUP policy in Scotland also caused an extensive debate between opponents and proponents of the policy from the alcohol industry, government, and academic institutions. Despite the different arguments and counter-arguments, the empirical research evidence on the potential effect of the MUP was crucial to the success of the policy against the legal challenge by its opponents, and led to the implementation of the policy. This demonstrates the importance of empirical evidence in the successful implementation of a high-profile policy.

As part of the MUP Act of 2012, evaluations of the MUP were required to determine whether MUP was achieving its mandate and to help the government to decide whether to continue the policy in the future or not. The Scottish government entrusted Public Health Scotland with leading the monitoring and evaluation of the policy. The Western Cape could consider adopting this model of monitoring and evaluation, which has so far been successful in achieving its aims and producing at least one study of the four evaluation themes of the policy.

Evaluation evidence on MUP implementation showed that the MUP was implemented as intended with a high degree of policy compliance among Scottish alcohol retailers. This indicates that the Scottish retailers are in general law-abiding. In contrast, the Western Cape has an extensive, informal, unlicensed alcohol sector, predominantly found in the townships. Given the unregulated nature of this informal alcohol retail sector, the Western Cape should not expect the same high levels of MUP compliance and enforcement as in Scotland since only licensed outlets will be subject to MUP. The knock-on effect will however come as

licensed retailers supply the unlicensed outlets. It may therefore be worth capacitating and using the current Liquor license officers, the South African Police Services (SAPS) as well as municipal police enforcement officers to assist in increasing the compliance rates when the MUP is implemented.

It is essential to note that the relative prices for different categories of alcohol are different in Scotland than in South Africa. It seems that the cheapest form of alcohol in Scotland is cider. In South Africa, it is cheap wine and sugar fermented beer. Thus, the impact of the MUP in Scotland is primarily effective on the cheap brands of cider. In South Africa, we can expect it to be primarily on wine, then, as the MUP increases, on other products. This is very important for the Western Cape since, according to van Walbeek and Chelwa (2019), it is a "wine province", i.e., its average wine consumption is above that of the country as a whole.

The overall impact of the MUP showed that it has achieved its primary objective of reducing alcohol consumption among heavy drinkers in Scotland. The effect of the MUP was noticeable just three months after implementation. The available evidence of the MUP's impact is in line with the predicted potential effect of the policy estimated prior to implementation. Experience from other countries (Scotland, the Russian Federation, Australia's Northern Territory, Northern Ireland, Wales, and the Republic of Ireland), and the empirical evidence on MUP in South Africa provided by Gibbs et al. (2021) and van Walbeek and Chelwa (2021), provides sufficient reasons to expect similar positive impacts with the implementation of an MUP policy in South Africa and in the Western Cape, and eventually in the whole country.

CHAPTER 3: NORTHERN TERRITORY OF AUSTRALIA

Background

Australia is an island continent located in the Southern Hemisphere. Harmful levels of alcohol consumption are present throughout the six states and two mainland territories; however, they are most pronounced in the country's Northern Territory (NT) (State and territory government | australia.gov.au, 2021). It is estimated that the cost of alcohol use and related harms amounts to AUS 1.4 billion (ZAR 15.2 billion) annually in the territory, with Indigenous alcohol-attributable death rates up to ten times higher than the national average (Taylor et al., 2021). About one-third of those living in the NT are Indigenous. Most Indigenous Australians individuals live in remote areas with high levels of socioeconomic disadvantage (Taylor et al., 2021).

The difference between Australia's states and territories lies in the way in which they are governed. Each of the country's six states, New South Wales, Queensland, South Australia, Tasmania, Victoria, and Western Australia, has a state constitution. These constitutions divide each state's government into the same legislative, executive, and judiciary divisions as the federal government (State and territory government | australia.gov.au, 2021). The country's two mainland territories, the NT and the Australian Capital Territory, do not have a state constitution; however, they have been granted a limited right of self-government by the federal government (State and territory government | australia.gov.au, 2021). Nevertheless, the territory is unable to apply regional taxes. The same situation is found in the Western Cape, one of South Africa's nine provinces. Like Australia's states, the Western Cape has its own constitution. However, this constitution is not as far-reaching as those of the Australian states and applies only to the province's executive and legislative branches and not to the judiciary (Constitution of South Africa, 2006).

While demographically and geographically distinct, the Northern Territory's history with alcohol is not dissimilar to that of the Western Cape. Both have a history of colonisation in which alcohol was used as a means of payment for indigenous labour, and both prohibited indigenous individuals' access to alcohol at some point in their histories. In both regions, these histories and actions contributed to the establishment of risky and unhealthy relationships with alcohol.

The problem of harmful alcohol use in the NT

The consumption of alcohol in the NT is amongst the highest in the world. If the territory were a country, it would be placed in the top ten of countries with the heaviest consumption rates (FARE, 2017). According to the Alcohol Burden of Disease Report 14 (2014), the NT has the highest per capita alcohol consumption rate in Australia, 12 litres per person per year, compared to a national per capita alcohol consumption rate of 10.43 litres. In addition, the NT has the highest rate of alcohol-attributed diseases and alcohol-related deaths, with 13.4% and 8.9% of male and female deaths, respectively, occurring because of alcohol (Riley,

2017a). Around 18% of individuals in the NT abstain from drinking. Of those who do not abstain, around 48% are characterised as single occasion risky drinkers – they consume more than four standard drinks at least once a month – and 33% as lifetime risky drinkers, who have more than two standard drinks per day on average (Riley, 2017a).

Between 2011 and 2013, 50.5% of Indigenous Australian adults in the NT abstained from alcohol. In comparison, 15.4% of non-Indigenous Australians abstained from alcohol over the period (Aboriginal Peak Organisations, 2017). Despite this, Indigenous Australians consume twice as much alcohol as their non-Indigenous counterparts, with Indigenous Australians consuming on average 1.5 bottles of wine[10] compared to an average of five glasses amongst non-Indigenous Australians (Aboriginal Peak Organisations, 2017). In addition, those Indigenous Australians who do drink do so at rates that place them at risk of long-term harm. These risky patterns of drinking are most pronounced in remote regions, where Indigenous Australians are 1.5 times more likely than the national average to drink at risky levels for both lifetime and single-occasion harm (Aboriginal Peak Organisations, 2017). Similar patterns of alcohol use are present in South Africa, where high levels of abstinence are coupled with high levels of consumption amongst those who drink (World Health Organization, 2018).

Overview of the NT history and alcohol policies

To understand the patterns of alcohol abuse amongst Indigenous Australians in the Northern Territory, it is important to understand the historical context from which they emerged (Wilson et al., 2010). Before European settlers arrived, Indigenous Australians had limited exposure to alcohol. With the arrival of the settlers in 1788, the volume and availability of alcohol in Australia substantially increased and became a cornerstone of early social and economic life in the new colony (Wilson et al., 2010). Many Indigenous Australians, like their European counterparts, developed a taste for alcohol, a development that suited the colonialists, who offered alcohol in exchange for labour and sex with Indigenous Australians (Wilson et al., 2010). In terms of the labour side, this situation is similar to the "dop" system in South Africa, a system characterised as the institutionalisation of alcohol as a medium of remuneration and social control over employees (London et al., 1998).

The colonial history of Indigenous Australians

The history of the Indigenous peoples of Australia is one of dispossession, social exclusion, racism, and a legal framework that supported the removal of children from families (Wilson et al., 2010). The settlement

[10] The period to which this applies was not indicated.

of the British in Australia in 1788 saw the widespread displacement of Indigenous Australians. After the British arrived, the Indigenous Australian population decreased as a result of epidemic disease and violence (Wilson et al., 2010). The swift decline in the Indigenous Australian population prompted interventionist policies by the colonial powers in 1869. The first of these was a "protection" policy, whereby Indigenous Australians were placed in missions and government settlements and were also deprived by legislation of their autonomy (Wilson et al., 2010).

By 1920, the Indigenous population had increased. In response to the population increase, the government introduced a policy of assimilation in the 1930s. The purpose of the policy was to assimilate Indigenous Australians to the European way of life. As part of the policy, indigenous children, particularly those of mixed-race heritage, were forcibly removed from their families and culture. The effects of this policy reverberate in Indigenous society to this day. These effects include the high level of mental health problems experienced by the community, and the absence of parenting models which have resulted in high levels of child abuse and neglect (Wilson et al., 2010).

History of alcohol policy before NT self-governance

The dispossession and destruction of the Indigenous Australian way of life, discussed above, has been further compounded by the harmful use of alcohol within these communities. Indeed, it may be argued that the first alcohol policies introduced in the country contributed to Indigenous Australians' harmful use of alcohol.

The first laws prohibiting Indigenous Australians from purchasing alcohol came into effect in New South Wales in 1838. By 1929, laws prohibiting Indigenous Australians from purchasing alcohol had been enacted in all Australian states and territories (Wilson et al., 2010). Because of the prohibition, Indigenous Australians were strictly monitored – by authorities – and excluded from various social spaces such as hotels, which were important centres of social activity (Wilson et al., 2010). It is likely that the prohibition, and subsequent fear of being caught with alcohol, resulted in riskier patterns of drinking, in which individuals resorted to drinking beverages with a high alcohol content, quickly, excessively, and without food (Wilson et al., 2010). Despite the repeal of the law prohibiting Indigenous Australians from buying alcohol in 1967, many individuals have continued to display the same patterns of drinking established under the period of restriction (Wilson et al., 2010).

History of alcohol policy following NT self-governance

With the passing of the Northern Territory (Self-Government) Act of 1978, the Northern Territory became a self-governing entity. Under the act, the Commonwealth of Australia transferred the majority of its governing powers to the territory. Having gained the right to govern itself, the NT government in 1978 passed the *Northern Territory Liquor Act.* The Act outlined the regulations regarding the sale, provision, promotion, and consumption of liquor (Liquor Act, 1978). Over a decade later, the NT launched its Living with Alcohol Program (LWA Program) in 1991 (Riley et al., 2017a). The LWA Program adopted a novel approach, emphasising the need to reduce harmful drinking and related behaviours, rather than relying on the traditional notions of abstinence and prohibition. In tandem with the LWA program, the NT government introduced a targeted levy on beverages containing more than 3% alcohol. In addition, in 1995 an AUD 0.35 levy per litre was added to cask wine. The profits of these levies funded the LWA program's "care, culture and control" strategies (Riley et al., 2017a). These strategies comprised campaigns to change the entrenched drinking culture in the territory through targeted educational media, to expand alcohol assessment, early intervention and treatment options, and to control the availability of alcohol and improve policy practice related to the supply of alcohol (Riley et al., 2017a).

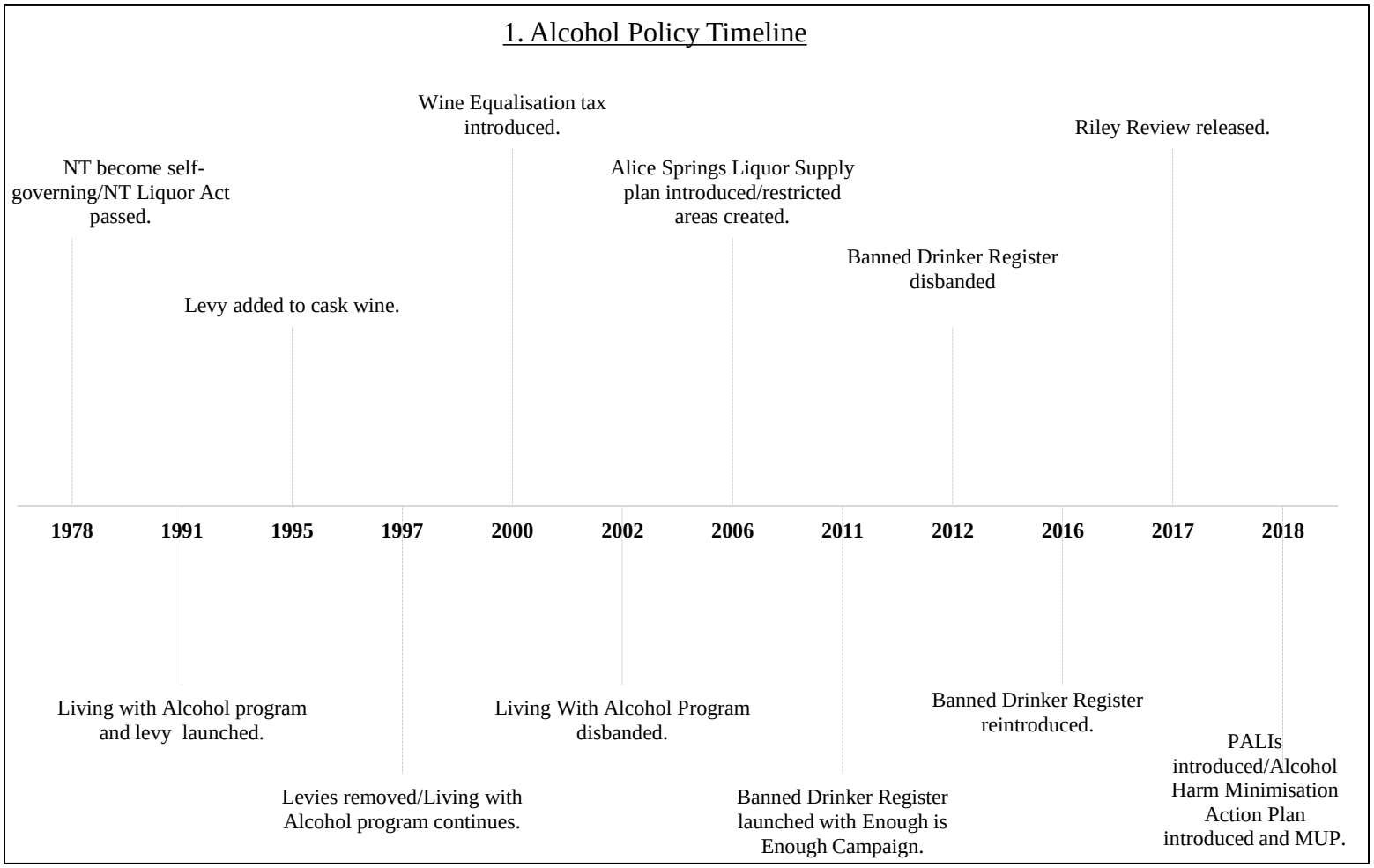
In 1997 a High Court ruling, prompted by a dispute in New South Wales over tobacco taxes, prohibited states and territories from raising license fees and additional taxes on tobacco, alcohol, and petrol (Chikritzhs et al., 2005). As a result, the levies were removed and the price of alcoholic beverages containing more than 3% alcohol decreased (Chikritzhs et al., 2005). Although the levy was removed, the commonwealth (federal) government continued to fund the LWA program until it was disbanded in 2002 (Chikritzhs et al., 2005). While it was in place, the programme led to significant reductions in alcohol-related harms (Riley et al., 2017a).

In July 2000, Australia introduced the Wine Equalisation Tax (WET). As a result of the WET, wine and fruit-based alcohol products are taxed on an ad valorem basis, as a percentage of their wholesale prices, while other alcohol products are taxed on their alcohol content (The Foundation for Alcohol Research and Education (FARE), 2017). The WET created an incentive for wine producers to use their tax-mandated comparative advantage to produce wine at the lowest cost per unit (FARE, 2017; Chalmers et al., 2013). Since 1997, the real (inflation-adjusted) cost of alcohol in Australia has decreased. While the decrease in the price of beers and spirits has been modest, the decrease in wine – largely driven by the WET – has not. Indeed, between 1997 and 2016 wine has become about 10% more affordable.

As can be seen in Figure 4, the Alice Springs Liquor Supply plan was introduced in 2006. Under the plan, the sale of wine and fortified wine in large containers ceased, effectively increasing the price of a standard

drink from AUD 0.80 to AUD 1.10 (Riley et al., 2017b). The increase in the price was found to reduce alcohol consumption in Alice Springs, and reduced alcohol-related harms, as measured by alcohol-related antisocial behaviour and hospital admissions (Symons et al., 2012). In addition, according to the submission by the Central Australian Aboriginal Congress, the plan led to a substantial decrease in assaults suffered by Aboriginal women (Riley et al., 2017b).

Figure 4: Alcohol Policy Timeline in the Northern Territory



Source: Timeline compiled by author using information provided by Adamson, 2021, Riley et al., 2017a, Taylor et al., 2021, Riley et al., 2017b, Chikritzhs et al., 2005, Wilson et al., 2010

Between 2006 and 2010 several local restrictions, which led to the creation of dry areas – areas where alcohol cannot be sold or, in some cases, consumed – were introduced. Some were controlled by the NT government – general restricted areas – or Federal Government – alcohol protected areas – through various pieces of legislation. These restricted areas remain in place, and in most of these areas alcohol is prohibited

outside licensed premises. However, there are a few exceptions made for eligible permit holders, where they are allowed to consume alcohol and or sell alcohol at certain events (Adamson, 2021).

In 2011, the Labour Government, which at the time was in charge of the NT, introduced the Banned Drinker Register (BDR). The BDR was launched with the *Enough is Enough* campaign (Riley et al., 2017a). The purpose of the campaign was to target individuals who commit alcohol-related crimes and exhibit anti-social behaviour by providing them with treatment to dissuade them from harmful drinking. The BDR prevented problem drinkers from purchasing, possessing, or consuming alcohol (Riley et al., 2017a). The *Enough is Enough* campaign included treatment orders, Alcohol Court reforms, and rehabilitation and awareness campaigns. In its first year of implementation, the BDR was found to decrease alcohol-related assaults by 6.3% (Riley et al., 2017a).

In 2012, the government in charge of the NT changed from the Labour party to the Country Liberal party – a party characterised as conservative. The new government disbanded the BDR and did not replace it. In 2016, the re-elected Labour government reintroduced the BDR, which came into effect in 2017 (Riley et al., 2017a). The new BDR program has been improved to include a focus on health. For example, a person will be placed on the BDR following repeated alcohol-related offences. The BDR identified individuals who had been banned from purchasing alcohol in the NT by scanning the approved identification of all individuals – including those not on the BDR – wishing to purchase alcohol (Taylor et al., 2021). Once placed on the BDR, individuals would be encouraged to undertake therapeutic interventions to help them to reduce their problem drinking. Breaking the Banned Drinking Order will result in the person receiving an extension on their ban or, in more serious cases, an Income Management Order (Riley et al., 2017a). To incentivize people on the BDR to seek treatment, reductions of the individuals time on the BDR are offered for successful completion of the treatment.

In June 2018, the NT government introduced Police Auxiliary Liquor Inspectors (PALIs). This refers to the stationing of police officers at the entrance of bottle-shop/off-trade outlets (Taylor et al., 2021). The PALIs were deployed in specific regions of the NT, namely Alice Springs, Katherine and Tennant Creek. They were not stationed in Darwin and Palmerston (Taylor et al., 2021). They are permitted to use their discretion in asking for proof of identity.

In 2018, the NT government introduced the Alcohol Harm Minimisation Action Plan. The term “harm minimisation”, as defined by the Alcoholreform.nt.gov.au (2021; 3), includes the following:

- *Reducing the demand for alcohol through education, prevention or delay of first use and health promotion activities.*

- *Reducing the supply of alcohol through effective regulation, sale and promotion*

- *Reducing the harm caused to individuals, families and the community through appropriate therapeutic support services.*

The Action Plan, with its focus on harm minimisation, was informed by the Alcohol Policies and Legislation Review of 2017, known as the Riley Review. The review found that while significant effort had gone into addressing alcohol-related harms in the Northern Territory, the efforts were hampered by poor data collection, outdated and ineffective legislation, an absence of policy program evaluation, a lack of a consistent policy approach from the government as a whole, and poor coordination and communication between agencies (Riley et al., 2017b). Included in the plan was a proposition for a minimum unit price (MUP) to apply to the retail price per standard drink. The following section outlines the rationale behind the introduction of the MUP and the problem of harmful alcohol use in the NT.

The rationale behind the MUP policy in the NT

Low-cost alcohol contributes disproportionately to alcohol-related harms in the NT. Indeed, evidence has found that cheap alcohol encourages higher rates of alcohol consumption and thus of alcohol-related harms (FARE, 2017). This may be because cheap alcohol is the most economically viable option for heavy drinkers. While the Alcohol Policies and Legislation Review noted that a volumetric tax, applied to wines and fruit-based alcohols, would be the most cost-effective approach to reducing alcohol harm, the Australian Constitution limits the ability of states and territories to apply taxation (FARE, 2017). The review recommended a minimum unit price (MUP), a policy approach available to the territory under the Australian constitution. According to the review, an MUP on alcohol would restrict cheap alcohol sales by setting a price below which alcohol cannot be sold (FARE, 2017). Given that the MUP institutes a minimum price, it is a policy that is more targeted than taxation, as it lifts the price of cheap alcohol products while leaving the price of more expensive products unchanged (FARE, 2017).

In Australia, a standard drink is defined as 10g/12ml of pure ethyl alcohol. South Africa differs slightly, defining a standard drink as 12g/15ml of pure ethyl alcohol (Parry et al., 2019). The Australian definition of a standard drink will apply in the following paragraphs.

As noted by FARE (2017), when considering policies that influence price, it is important to understand how changes in the price impact demand. Of central importance is price elasticity; the analysts formulating the floor price must consider the different elasticities across different types of consumers and different products when trying to understand the broader effects of a floor price (FARE, 2017).

FARE (2017) examined the impact of an MUP, set at AUD 1.20 (ZAR 12,78), 1.50 (ZAR 15,98) and 1.80 (ZAR 19.17) per standard drink, on subgroups defined by income and consumption level. FARE (2017) found that a price level of AUD 1.50 would influence a larger proportion of off-trade (alcohol that is consumed off the premises at which it is purchased) purchases by individuals consuming hazardous and harmful levels of alcohol than a floor price set at AUD 1.20. FARE (2017) recommended that a floor price set at AUS 1.50 would yield a larger reduction in consumption among harmful drinkers than among those consuming at moderate levels. The authors also found that harmful consumers of alcohol – defined as men consuming 42 standard drinks or more and women 35 standard drinks or more per week, respectively –on lower incomes consume higher rates of cheap alcohol, while moderate drinkers do not. Indeed, FARE (2017) found that moderate drinkers with low incomes tended to purchase alcoholic beverages above the price threshold of AUD 1.50. The findings suggest that low-income consumers will only be affected by the MUP when consuming at harmful levels, while low-income moderate consumers will be less affected than middle- and high-income moderate consumers. The findings prompted FARE (2017) to suggest that an MUP of AUS 1.50 in the NT would be the most effective in targeting harmful alcohol consumption while having a limited impact on moderate drinkers, seen as a desirable policy objective.

The technicalities of the MUP

In October 2018, the Northern Territory instituted a minimum unit retail price per standard drink of AUS 1.30 as an automatic condition for a liquor license (Liquor Act 2019). This MUP was lower than the AUD 1.50 suggested by FARE (2017), for reasons that will be discussed later in the paper. A standard drink is defined as the volume of a liquor product that contains 10 g (12 ml) of pure ethanol when measured at 20 degrees Celsius. The following formula is used in the NT to determine the number of standard drinks in a liquor product:

$$SD = V \times ABV \times 0.789$$

Where *SD* is the number of standard drinks, *V* the volume of liquor products in litres, *ABV* the alcohol content of the liquor product expressed as a number equal to the percentage of volume on the product label and 0.789 is the specific gravity of the pure ethanol (Liquor Act 2019).

The minimum price, or floor price, applies to the retail sales price of all alcohol products, including off-trade (bottle stores, supermarkets, online) and on-trade (restaurants, hotels, bars, pubs) purchases, essentially creating a minimum sale price below which a liquor product cannot be sold, or offered for sale. The MUP of AUS 1.30 has the greatest impact on the sales of cask, bottled, and fortified wines (Taylor et al., 2021), because they are the products that are both cheap and high in alcohol content. The NT MUP therefore specifically targets wine and wine-based beverages while mostly omitting beer, spirits and other beverages as they are already being sold above the MUP level (Taylor et al., 2021). This is likely to be a similar situation in South Africa where the lowest alcohol prices are for wine products (especially bag-in-box wines) and also "ales", However, it is important all alcoholic beverages are included, as otherwise other types of drink could take advantage of the situation and move into the cheap alcohol market. To ensure that the impact of the MUP of AUS 1.30 does not diminish over time, it is indexed against average ordinary time wages.

The sale price of a liquor product is the amount of money to be paid for it. It is inclusive of the following: any discounts given or offered to the purchaser, any refunds given or offered to the purchaser, and any amount to be paid for shipping the product to the purchaser (Liquor Act 2019). The liquor act prevents the manipulation of the sale price by prohibiting the following: the bundling of two or more liquor products, the selling of liquor products with non-liquor products at a price that appears to be below the minimum sale price, and the sale of liquor products at a price below the minimum sale price, by accepting gift cards, coupons and or tokens (Liquor Act 2019).

The MUP and cross border sales

As has been established, the NT MUP is a subnational policy; it is not in place in any other Australian state or territory. If an MUP is implemented in the Western Cape, it too would be a subnational policy and subject to the same concerns surrounding within-country sales. One area of interest is how an MUP introduced in the Western Cape would impact cross-provincial trade. The introduction of the MUP in the NT may offer insights in this regard. While the Western Cape and the NT have similar histories regarding the use of alcohol, geographically they are quite different.

Most of the NT is remote. According to the Australian Statistical Geography Standard (ASGS) Remoteness Structure, Darwin is classified as outer regional, Alice Springs and Katherine are classified as remote, and the rest of the territory is classified as very remote (Clifford et al., 2020). The remoteness of the NT may impact cross-border sales in two ways. First, the distances needed to travel to reach other states or territories in search of cheaper alcohol is likely to act as a barrier. Secondly, freight costs have ensured that alcohol prices are above AUD 1.30, regardless of the MUP, in some remote areas (Clifford et al., 2020).

The *Liquor Act 2019* prohibits the purchasing and sale of liquor from outside the Territory for delivery to a person or place in the Territory without the required license. Retailers situated outside the NT wishing to sell alcohol within the NT – for example, an online retailer selling wine from Victoria – will be subjected to the same laws as licensees within the NT. The price paid for a product purchased online depends on the delivery address. The laws that apply to the sale of alcohol within the NT – such as the MUP – will also be applied to their products. The provision prevents unlicensed retailers from undercutting the MUP in the NT through online sales.

As the MUP has run alongside the BDR – which was introduced before the MUP – it is important to consider the impact of the latter policy on cross-border sales of alcohol and particularly the secondary sale of alcohol. The secondary sale of alcohol can either occur through the sharing of alcohol between friends and family or be done for profit. The latter is referred to as "grog-running", where alcohol is transported across local or jurisdictional boundaries and sold on the black market in restricted areas (Adamson et al., 2021). Adamson et al. (2021) found that the BDR incentivised both sellers and buyers of alcohol to travel to non-restricted areas to either sell or buy alcohol on the black market. In interviews conducted with various stakeholders, Adamson et al. (2021) found that individuals were concerned that the BDR had facilitated the sale of black-market alcohol at inflated prices. It was found that individuals on the BDR were willing to pay inflated prices for alcohol (Adamson et al., 2021). Adamson et al. (2021) note that it is exceedingly difficult to monitor the transportation of alcohol across borders. It is also difficult to determine whether cross-border purchasing of alcohol and "grog-running" are motivated by the MUP or the BDR. It may be argued that the “grog-running” has been largely driven by the BDR, as individuals who are banned from drinking are not necessarily sensitive to increases in the price of alcohol, but rather in its supply.

Arguments about the MUP policy by opponents and protagonists

The main protagonist of the MUP in the NT was the Northern Territory Government. On 11 April 2017, the NT Cabinet approved the appointment of an Expert Advisory Panel. The panel was comprised of local experts in the fields of alcohol-related harm, addiction, Aboriginal concerns, social welfare, and regulation

and policy, as well as having representatives from the liquor industry (Alcohol Policies & Legislation Reform, 2021). The panel was chaired by Mr Trevor Riley, former chief justice of the NT Supreme Court, former president of the NT Bar Association and former director of the Foundation for Alcohol Research and Education (FARE) (Alcohol Policies and Legislation Review, 2021). Following a public consultation process that took place between May and August 2017, the panel reported to the Minister of Health and the Attorney-General with recommendations for the development of an alcohol-harm reduction framework (Alcohol Policies and Legislation Reform, 2021). The final report came to be known as the Riley Review, and was developed with inputs from civil society organisations, academics, government, local organisations, and the liquor industry. The report included 220 recommendations. The NT government expressed support for 187 of these. Following the report, the NT government released the Alcohol Harm Minimisation Action Plan 2018-2019. The action plan included a provision for the implementation of an MUP on alcohol.

Academics and some on-trade establishments – ClubsNT, Hibiscus Tavern, Beachfront Hotel, the Tap Bar, Palmerston Sports Club, Glen Helen Lodge – supported the implementation of an MUP in the NT. The House of Representatives report and the Northern Territory Select Committee report both suggested the setting of a minimum unit price as their key recommendation (Riley et al., 2017b).

Research conducted by FARE (2017), which was used to inform the recommendations made by the Riley review, noted research conducted by the Australian National Preventative Health Agency (ANPHA) (2012), which found that young people are sensitive to increases in the price of alcohol. Based on this research, the review argued for an MUP on the basis that an increase in price would lead to a decrease in dangerous and harmful levels of drinking amongst young people (Riley et al., 2017b). The review further cited the Territory's success with other price-based policies, namely the levy under the Living with Alcohol Program and the Alice Springs Liquor Supply plan, as an argument for an MUP.

Alcohol Beverages of Australia – an alcohol industry lobby group – was the policy's main opposition. Opponents of the MUP were concerned about the impact MUP would have on low-income moderate drinkers, as cheap alcohol represents a larger share of the alcohol low-income moderate drinkers consume (Riley et al., 2017b). They were concerned that the consumption of alcohol within this group would fall due to the introduction of the MUP. However, the review noted that the significant benefits of the MUP that would accrue to this group, namely reductions in alcohol-related harms and abuse, would offset the negative impact (Riley et al., 2017b).

A second concern that was raised in the public hearings was that an MUP may extend a windfall benefit to licensees. The difference between the wholesale cost of the cheap alcohol and the minimum price was expected to lead to this windfall (Riley et al., 2017b). In response to the argument, the review noted that the windfall would likely not eventuate because of decreased demand for the very cheap alcohol when it was sold at higher prices. The review also argued that the possibility of a windfall to some licensees is not a sufficiently significant reason for the government to refrain from implementing a policy proven empirically to benefit the greater community (Riley et al., 2017b).

Furthermore, the industry argued that the demand for alcohol by hazardous and harmful drinkers is price inelastic, the implication of this being that, in the presence of an MUP, hazardous and harmful drinkers would spend more on alcohol and less on necessities such as food (Riley et al., 2017b).

To support their overall argument that an MUP would harm consumers, the industry claimed that the reasons for excessive drinking of alcohol do not relate to the availability of the substance but rather the environment in which harmful patterns of drinking emerge. In essence, the industry argued that the MUP policy would not reduce harmful consumption because it was a price-based policy – that serves to limit the availability of alcohol – and not a social intervention. The review strongly refuted the industry's argument, citing the Territory's experience with the Alice Springs Liquor Supply Plan, and academic literature, which found that reducing the availability of alcohol through price increases or physical availability substantially reduced consumption and consequently alcohol-related harms (Riley et al., 2017b).

Considering the arguments for and against the adoption of an MUP in the NT, the review made the following recommendations: that a minimum unit price of approximately AUS 1.50 per standard drink be implemented, in recognition of the fact that raising the price of alcohol is a cost-effective way to reduce alcohol-related harms. The review recommended that the MUP apply to all sales of alcohol in the NT. It was also recommended that the MUP be evaluated after three years to determine its impact on consumption and alcohol-related harms (Riley et al., 2017b).

After the recommendation for an MUP was approved by the NT government, it was implemented swiftly and faced no legal opposition. However, as mentioned previously, the suggested MUP of AUS 1.50 was reduced to AUS 1.30. The reason for this was two-fold. First, the MUP was reduced, in order to be more palatable for the public (Clifford, 2020). Secondly, the original MUP of AUS 1.50 would have affected certain low-cost beer products. To ensure that the MUP did not affect these products the alcohol industry placed pressure on the NT government to reduce the proposed MUP. The government appears to have

conceded. However, it is unclear which reason was at the forefront of the NT government's decision to reduce the MUP.

Evaluation of the MUPs' implementation in the NT

One year after the MUP was implemented in the NT, an evaluation study was conducted by Coomber et al. (2020). This evaluation study was complemented by Taylor et al.'s (2021) analysis of the impact of the MUP on wholesale alcohol supply trends in the NT.

To account for the co-occurrence of the MUP with the BDR and PALIs, Coomber et al. (2020) used the relative timing and location of the various policies, as well as the key target groups of each policy, to determine the impact of each of these interventions. Taylor et al. (2021), on the other hand, focused their study on the Darwin/Palmerston region, as this region was least likely to have been affected by the other initiatives, given that they were not introduced in the area.

Overall, the evaluation study conducted by Coomber et al. (2020) found that total alcohol sales, alcohol-related assaults, protective custody episodes, alcohol-related ambulance attendances, alcohol-related road traffic crashes, and the number of child protection notifications, protection orders, and out-of-home care cases throughout the territory, all declined as a result of the MUP policy[11] (Coomber et al., 2020). In terms of the number of liquor licenses, tourism numbers, and overall expenditure, there was no change (Coomber et al., 2020). According to Coomber et al. (2020/, the findings illustrate that the MUP complemented the BDR and PALIs policies.

Additionally, the per capita alcohol wholesale supply data and survey used in the study highlighted that the MUP had achieved its goal. The MUP specifically targeted cask wine. Most other beverages were shown to be unaffected by the MUP (Coomber et al., 2020). Businesses reported that implementing the MUP was straightforward. Furthermore, businesses noted that their turnover either stayed the same or improved. Furthermore, the wholesale supply of alcohol to nightlife venues was shown to be unaffected, a finding of considerable importance for opponents of the policy (Coomber et al., 2020). Based on these findings, Coomber et al. (2020) concluded that the MUP achieved its objective of reducing alcohol consumption and related harms, while having a limited impact on moderate drinkers.

[11] The report was unable to establish what the actual percentages were.

Similarly, to Coomber et al. (2020), Taylor et al. (2021) found that the introduction of MUP resulted in reductions in the consumption of cask wine and of total wine per capita. These declines occurred both in the Darwin/Palmerston region and territory-wide (Taylor et al., 2021). Taylor et al. (2021) found little evidence that the MUP affected the consumption of beverages not specifically targeted by it, such as beer. In addition, downward trends over the study period were recorded for non-wine beverages, such as beer, but these were not associated with the MUP (Taylor et al., 2021). Thus, the evidence presented by Taylor et al. (2021) indicates that the MUP reduced the consumption of cheap wine products, as intended, while not directly affecting unintended beverages. Total liquor consumption decreased throughout the whole territory, except in the Darwin/Palmerston region. Taylor et al. (2021) note that this may be due to wine's relatively small share of total liquor consumption in the area.

A particular concern of those opposed to the MUP was that harmful drinkers would mitigate the increases in price through substitution (Taylor et al., 2021). In their study, Taylor et al., (2021) found little evidence of transference between those beverages targeted by the MUP and those not targeted. The authors, however, noted media reports which claimed that some drinkers substituted non-liquor alcohol products (such as methylated spirits or mouthwash) for cheap alcohol. The government also noted this phenomenon and required that retail outlets place such items "behind the counter" (Taylor et al., 2021). Although reports of this nature disappeared within two months, Taylor et al. (2021) acknowledge that they could not access data that would shed further light on this behaviour.

Conclusion

The histories and alcohol-related realities of the Northern Territory and the Western Cape are not dissimilar. Both regions have a history of colonialization and social exclusion and an entrenched culture of heavy drinking. Additionally, the alcohol products preferred by harmful drinkers are cheap and wine-based.
There are several key lessons from this case study. These largely relate to the process of policy formulation. In formulating the alcohol legislation of which the MUP was a part, the Northern Territory government sought commentary from numerous players, some opposed to and some in favour of the introduction of the MUP policy. The collaborative approach adopted by the Northern Territory government ensured that the policy would, to the extent that was possible, take into account all concerns mentioned so as to ensure its timely and satisfactory implementation. Importantly, the policymakers did not compromise on the overall integrity of the policy, to ensure that it had the desired impact.

A second key lesson was that the MUP was backed by empirical evidence. The empirical evidence was used extensively by the Northern Territory government to back the proposed policy. In addition, the implementation of the MUP followed a clearly outlined legislative process and relied on inputs from experts at every step. These procedural steps appear to have made the MUP policy more palatable to the general public, government, and industry.

A third key lesson from the Northern Territory case study is that while it is effective in and of itself, an MUP policy is likely to be more effective when complemented with additional supply reduction policies. As was seen in the Northern Territory, the MUP, in tandem with the BDR and PALIs, led to significant reductions in harmful alcohol consumption and related harms. Lastly, in the one-year evaluation of the policy, the MUP was found to have reduced alcohol consumption and related harms by specifically targeting cheap alcoholic beverages. While further evaluations of the policy are needed to fully determine its impact, the preliminary results provide the Western Cape with evidence of an impactful sub-regional MUP policy.

CHAPTER 4: RUSSIA

Introduction

The increase in alcohol consumption in the Soviet Union since the Second World War coincided with an increase in the national mortality rate, which peaked in 1994 (World Health Organization, 2019: 3). The phenomenon of high mortality rates has been dubbed the "Russian mortality crisis". In 1994, a 20-year-old Russian man had a 50% chance of reaching age 60, compared to 90% in the United States and Britain (World Health Organization, 2019: 3). The high mortality rate has largely been associated with heavy drinking. This case study investigates the policy responses by the Russian government to address the high mortality figures, with a specific focus on the role of minimum unit price (MUP) policies applied to spirits. An MUP is a price floor below which it is illegal to price a fixed amount of alcohol. Imposing an MUP on alcohol differs from increasing the tax rate on alcoholic beverages in the sense that it only affects alcoholic beverages which are cheaper than the proposed price floor. An increase in tax rates, on the other hand, has an impact on all alcoholic beverages.

The rationale for MUPs is largely based on different responses among those who drink alcohol. Heavier drinkers tend to favour cheaper alcoholic beverages and MUPs are specifically targeted at increasing the prices of the cheapest drinks, effectively targeting heavy drinkers (World Health Organization, 2020). Moreover, in Russia there is a specific hierarchy among alcoholic products which is based on the price, the perceived health risks, and the social status associated with those who usually consume a specific type of alcoholic beverage (World Health Organization, 2019). In this hierarchy, homemade products are acceptable alternatives to store-bought alcohol whilst surrogates are at the bottom of the socioeconomic hierarchy. Surrogate alcohol is alcohol not produced for human consumption, but which is nonetheless consumed by humans (Neufeld & Rehm, 2018). The consumption of surrogate alcohol, which usually has an ABV (alcohol by volume) of 60% to 95% and is cheaper than other types of alcohol, is associated with homelessness and severe binge drinking (World Health Organization, 2019). Those who are unemployed are more likely to be regular drinkers and consume spirits in higher quantities. Heavy-drinking individuals are more likely to consume surrogates than homemade alcohol (Neufeld & Rehm, 2018).

The evolution of the role of alcohol in Russia

It was not always the case that Russia had a high incidence of alcohol consumption. In the 19th century the working class in Russia had a pro-sobriety tradition. This changed during and after the Second World War

due to increased purchasing power and government provision of alcohol during and after the War (World Health Organization, 2019: 1 & 2). The global trend of increased alcohol consumption after the War was particularly pronounced in Russia, with alcohol consumption increasing threefold from 1950 to 1965 (World Health Organization, 2019: 2). This trend coincided with an increase in the production of unrecorded alcohol, to the extent that in 1960 the consumption of unrecorded alcohol exceeded half of all alcohol consumption (World Health Organization, 2019: 2). Unrecorded alcohol consumption refers to alcohol that is not reflected in official government statistics and includes illicitly produced alcohol, homebrew, cross-border smuggling, and surrogate alcohol (Neufeld & Rehm, 2018: 1).

Since 2003 the Russian Federation has implemented a variety of alcohol policies to address its high mortality rate. The policies have had a considerable measure of success. They were certainly not the first attempt to reduce alcohol consumption in Russia. In 1985, before the fall of the Soviet Union, President Mikhail Gorbachev supported a campaign promoting abstinence (World Health Organization, 2019: 2). The campaign introduced measures like raising the minimum drinking age from 18 to 21, restricting the hours of alcohol sales, restricting imports of alcohol, and raising alcohol prices (World Health Organization, 2019:2). These measures coincided with an increase in home-brewed alcohol products and the consumption of surrogates (like colognes, polishes, and lacquers); nevertheless, total consumption fell by around 25% and an estimated 1.2 to 1.6 million premature deaths were avoided as a result of these policies (World Health Organization, 2019:2). These policies were, however, viewed as being overly punitive and most were repealed after the fall of the Soviet Union.

Other factors, together with the abandonment of effective control policies, also contributed to the increase in alcohol consumption in Russia in the 1990s. For instance, the government loosened its control on the alcohol industry and production by surrendering its monopoly on alcohol production, and imports increased rapidly after 1989. During this time, the country suffered extreme economic turbulence, including a period of hyperinflation, as it transformed itself from a centrally-planned economy to a market economy (World Health Organization, 2019:3). In 1991, various reforms were introduced to aid the shift to a market economy. These reforms included raising the price of certain goods, increasing wages, and allowing certain goods to be sold at market prices – which were often much higher than the artificially low prices set by government (Treisman, 2010). These policies caused a drastic increase in the average price level of goods and services. Vodka, however, was protected from these price increases and its price kept artificially low by government (Treisman, 2010). The result of these changes was that the average wage could buy 380% more cheap vodka at the end of 1991 than at the start of 1991, which resulted in an increase in vodka consumption and associated harms (Treisman, 2010).

In January 1992, President Boris Yeltsin freed most prices in the Russian Federation but included vodka on a list of products, along with products like baby food and bread, that were exempt from price liberalization, and whose prices therefore remained artificially low (Treisman, 2010). The limitation on the vodka price was removed in mid-1992 but regional authorities could still restrict increases in the vodka price, which they did (Treisman, 2010). The regional authorities feared that raising vodka prices would be politically unpopular in times of economic hardship, especially after the stringent alcohol reforms in the 1980s.
The lower relative price of alcohol, along with institutional changes, such as the relinquishing of the government's monopoly on alcohol production, coincided with the development of legal and illegal alcohol markets in the 1990s which contributed to the Russian mortality crisis (World Health Organization, 2019: 3). In 1991, there was a shortage of cheap vodka to such an extent that the purchase of cheap vodka had to be facilitated through ration cards (Treisman, 2010). This shortage counteracted the increased affordability of vodka and therefore delayed the increase in alcohol consumption and associated mortality. Furthermore, between 1993 and 1996 loopholes in policy allowed alcohol-producing and importing organizations to use presidential decrees to reduce their tax liability and to evade import duties on large volumes of imported alcohol (World Health Organization, 2019). These loopholes allowed organizations to further decrease the price of the alcohol they imported, which meant that alcohol became even more affordable.

These developments contributed to the Russian Federation becoming one of the countries with the highest levels of alcohol consumption in the world and having one of the highest rates of alcohol-attributable mortality (Neufeld et al., 2020: 1). In 2012, nearly three-quarters of men were current drinkers and more than 60% of women were current drinkers (Shield & Rehm, 2015: 4). In the same year alcohol caused 187 deaths per 100,000 people in the Russian Federation among people under 64 years, a total of 231,900 alcohol related deaths (Shield & Rehm, 2015: 4). The Russian Federation also has one of the largest gender gaps in mortality (Neufeld et al. 2020: 1). Life expectancy for Russian men in 2012 was 63 years compared to 75 years for women (Shield & Rehm, 2015). This is largely explained by the prevalence of heavy episodic drinking among men, 29.8% of whom were classified as heavy episodic drinkers, compared to only 10.2% of women (Shield & Rehm, 2015: 4). By 2018 the gender gap in mortality had shrunk, from 12 years in 2012, to ten years, with a 68-year life expectancy for men and a 78-year life expectancy for women (World Health Organization, 2019: 16).

Alcohol policies in the Russian Federation

The Russian Federation has implemented and subsequently repealed a multitude of alcohol-related policies since 1990. These policies can broadly be categorized into four groups: (1) healthcare; (2) alcohol availability restriction; (3) drink-driving; and (4v) price-related policies. The remainder of this section is devoted to discussing each of these categories in their respective sub-sections, starting with healthcare policies. Many of these categories experienced regression in the 1990s and most of the effective measures only came into effect in the early 2000s.

Healthcare and support for alcohol-dependent people

In 1994 the Russian Federation liquidated the Soviet network of occupational therapy rehabilitation centers (World Health Organization, 2019). The consequence was that an estimated 150,000 people were released from their compulsory treatment without being offered any alternative forms of treatment (World Health Organization, 2019). These rehabilitation centers had been established in 1967 for the compulsory treatment and "labour re-education" of individuals with alcohol dependence or those who "violated the socialist order" (World Health Organization, 2019). Mandated stay at these rehabilitation centers ranged from six months to two years and escaping from these facilities was considered a criminal offence. Since the 1994 liquidation, the government has implemented other healthcare interventions to address harmful alcohol use. In 2014 the Health Development programme, which provides a means of monitoring harmful alcohol use and promotes healthy lifestyles at national and regional levels, was approved (World Health Organization, 2019). In 2016, the train-the-trainer toolkit, which delivers screening and brief intervention for hazardous and harmful alcohol use, was developed by a panel of experts with support from the World Health Organization and international consultants (World Health Organization, 2019). Both programmes provide interventions aimed at identifying those who are at risk before they become a strain on the healthcare system and proactively promoting healthier habits.

Availability restrictions

The category of availability restrictions encompasses a broad range of policy interventions, which range from restricting the hours specific outlets are allowed to sell alcohol to identifying which products qualify to be regulated by alcohol legislation. Arguably the most important intervention was the establishment of the Unified State Automated Information System (EGAIS), a centralized electronic tracking and monitoring system of alcohol, in 2006 (Neufeld & Rehm, 2018:2). The EGAIS system made it mandatory for producers

of alcohol to purchase the equipment necessary to report online the volumes that they produced. The purpose of the EGAIS was to improve transparency and state control of the alcohol market and to eliminate, or at least reduce, the illegal alcohol industry (Neufeld & Rehm, 2018: 2).

Although its initial purpose was merely for data collection on the volumes of alcohol produced, the EGAIS system now allows enforcement agencies and consumers to access information about the origin of alcohol products by scanning a QR (Quick Response) code (World Health Organization, 2019). The EGAIS system was implemented gradually. It only became effective in 2009 and its functionality has improved over time (Khaltourina & Korotayev, 2015). The purpose of the system is threefold, (1) to inform consumers about the origin of the products they purchase; (2) to aid in the enforcement of alcohol legislation and collect accurate data; and (3) to ease alcohol tax collection, partially by increased pressure on unrecorded alcohol producers (World Health Organization, 2019).

Coinciding with the implementation of the EGAIS system in 2006 was the introduction of new excise stamps, which were harder to falsify. The new excise stamps replaced the old stamps (Neufeld & Rehm, 2018: 3). Excise stamps are issued by the government and are affixed to bottles of alcohol to indicate that excise duties have been paid and they signal that these products are not counterfeit. Owing to the new stamps not being immediately and widely available to all retailers in the industry, and to it being illegal to sell alcohol without these excise stamps, a shortage of alcohol occurred (Neufeld & Rehm, 2018:3). Also in 2006, the government passed a law that placed minimum capital requirements on alcohol producers (Khaltourina & Korotayev, 2015). This effectively drove smaller producers, many of whom contributed to the problem of unregistered alcohol production, out of the market and contributed to the temporary shortage of spirits (Khaltourina & Korotayev, 2015).

Alongside these three substantial changes in policy, smaller measures were also implemented. In 2011 the sale of alcohol near educational, sports, cultural, or medical facilities, and in kiosks, was prohibited (Neufeld & Rehm, 2018). At the same time, the consumption of alcohol was prohibited aboard public transport, or in stadiums, markets, places of mass gatherings, military establishments, and airports (Neufeld & Rehm, 2018). However, places that provide food services were exempted from the prohibition (Neufeld & Rehm, 2018). There were also important restrictions on advertising that started in 2001 when alcohol advertisement was prohibited in stadiums, public transport and mass gatherings (Neufeld & Rehm, 2013). In 2017 the “distribution of information and advertisement for the retail sale of alcoholic beverages and alcoholic products on the Internet” was also prohibited (Neufeld & Rehm, 2018).

Drink-driving regulations

In 2003, the government implemented stricter policies related to drink-driving (World Health Organization, 2019). These include lowering the blood alcohol concentration (BAC) allowed for drivers to 0.03% and increasing the penalty for driving under the influence (DUI). In 2009 the penalties for driving under the influence were further increased, particularly for instances that resulted in injury or death (World Health Organization, 2019). In 2013 these fines were increased yet again (World Health Organization, 2019). A zero BAC tolerance for drivers was adopted in 2010, but it was changed back to its previous level of 0.03% to account for possible measurement error (World Health Organization, 2019).

Price-related policies

Price-related policies broadly consist of taxes and price floors. This sub-section discusses taxes, with a particular focus on MUP primarily for vodka. An excise tax levied per litre of spirits had been in place since 1997 (Khaltourina & Korotayev, 2015). However, excise taxes were not adjusted for the hyperinflation of 1998 and 1999. The hyperinflation reduced the real price of alcohol, which meant that alcohol, relative to other goods and services, became cheaper (Khaltourina & Korotayev, 2015). In 2005, there was a 50% increase in taxes on alcohol which substantially increased the price of alcohol, reversing the previous downward trend (World Health Organization, 2019). The excise tax rate was adjusted for inflation from 2005, and after 2010 the alcohol excise tax was increased at a pace exceeding the rate of inflation (World Health Organization, 2019). In 2015 the excise tax was not increased, and although it was increased again between 2016 and 2018, these increases were lower in real terms than the increases between 2010 and 2013 (World Health Organization, 2019). The same trend over this period is observed in the MUP of vodka, as is shown in the next section.

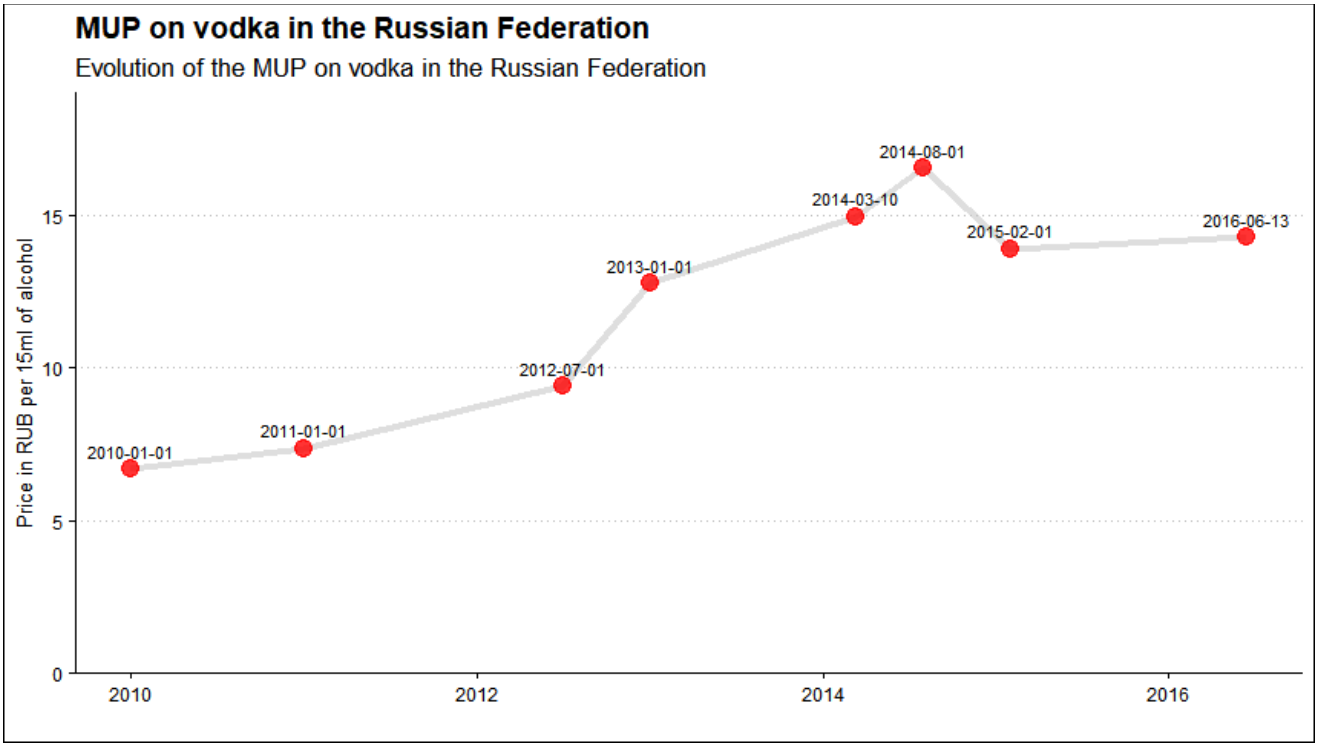
Minimum unit pricing of spirits in the Russian Federation

From 2010 to 2014, the Russian Federation has consistently increased minimum retail prices per litre of spirits. The OECD (2021) and World Health Organization (2019) state that a minimum unit price (MUP) was introduced on vodka as early as 1996 but was only enforced from 2003 onward. Neither source indicates the amount at which the minimum price was set. The MUP on vodka was set at 6.70 roubles (roughly R1.34) for 15 ml of pure alcohol in 2010. This was gradually increased up to 16.54 roubles (roughly R3.31) for 15 ml of pure alcohol in 2015, as can be seen in Figure 5. An MUP on all spirits was implemented in 2011 and gradually increased in subsequent years (OECD, 2021:189). Although Russia has

a minimum retail price per bottle of spirits, Figure 5 shows the evolution of the MUP on vodka, which was calculated by using a 40% ABV (alcohol by volume) content for vodka and a unit equal to 15 ml of pure alcohol (the same as the South African standard drink), based on figures reported by Macro-Advisory (2017). The MUP on vodka reached a high of 16.54 roubles (roughly R3.22) per 15 ml of pure alcohol (this translates to 220 roubles (R44.50) per 500 ml bottle) in 2014, but it was reduced to 13.09 roubles (R2.78) per 15 ml of pure alcohol in 2015.

The decrease in the MUP on vodka was supported by President Putin at the end of 2014, on the grounds that it would help to address concerns about increased consumption of unregistered alcohol by making legal producers more price-competitive than producers in the unregulated market (Neufeld & Rehm, 2018: 3). Subsequently, in 2015, the persistent increase in the MUP was reversed and the excise taxes were reduced, resulting in a fall in vodka prices (OECD, 2021: 189). Putin's justification for the reduction in the MUP contradicts the circumstances that led to the initial introduction of an MUP. Although, at first, the 2015 policy was officially presented as being motivated by public health concerns, the alcohol industry lobbied for its adoption because their products were being undercut by illegal products (Macro-Advisory, 2017). What is more, one vodka distributor in particular – Status Group – benefitted from the reduction in the MUP of vodka in 2015 (Macro-Advisory, 2017). Other major vodka producers expressed opposition to minimum retail prices below 200 roubles per bottle due to the difficulty of producing vodka at such a low price (Macro-Advisory, 2017). Status Group was the only retailer at the time that was able to produce vodka at the low price of 185 roubles per bottle and subsequently came to lead the vodka market (Macro-Advisory, 2017). Status Group also had close ties with government (Macro-Advisory, 2017), which suggests that the 2015 reduction in the MUP might have been driven by vested interests rather than public health concerns.

Figure 5: Level of MUP on vodka in the Russian Federation)2010-2016)



Source: *Author's calculations based on Macro-Advisory (2017)*

The support of major producers in the Russian vodka industry for a higher minimum price on vodka suggests that the minimum price might have been set too low to have a meaningful impact in 2015. The MUP did, however, contribute to increased vodka prices *prior* to 2015. The average price of a bottle of vodka was around 100 roubles in Moscow in 2010; this was only slightly above the minimum price established in January of that year (Jargin, 2010). Furthermore, the 150% increase in the MUP of vodka from 2010 to 2014 coincided with a 77% increase in the price of vodka whilst disposable incomes only rose by 15% on average in the same period (Radaev, 2015). This suggests that the MUP on vodka had a significant impact on vodka prices prior to the 2015 reduction.

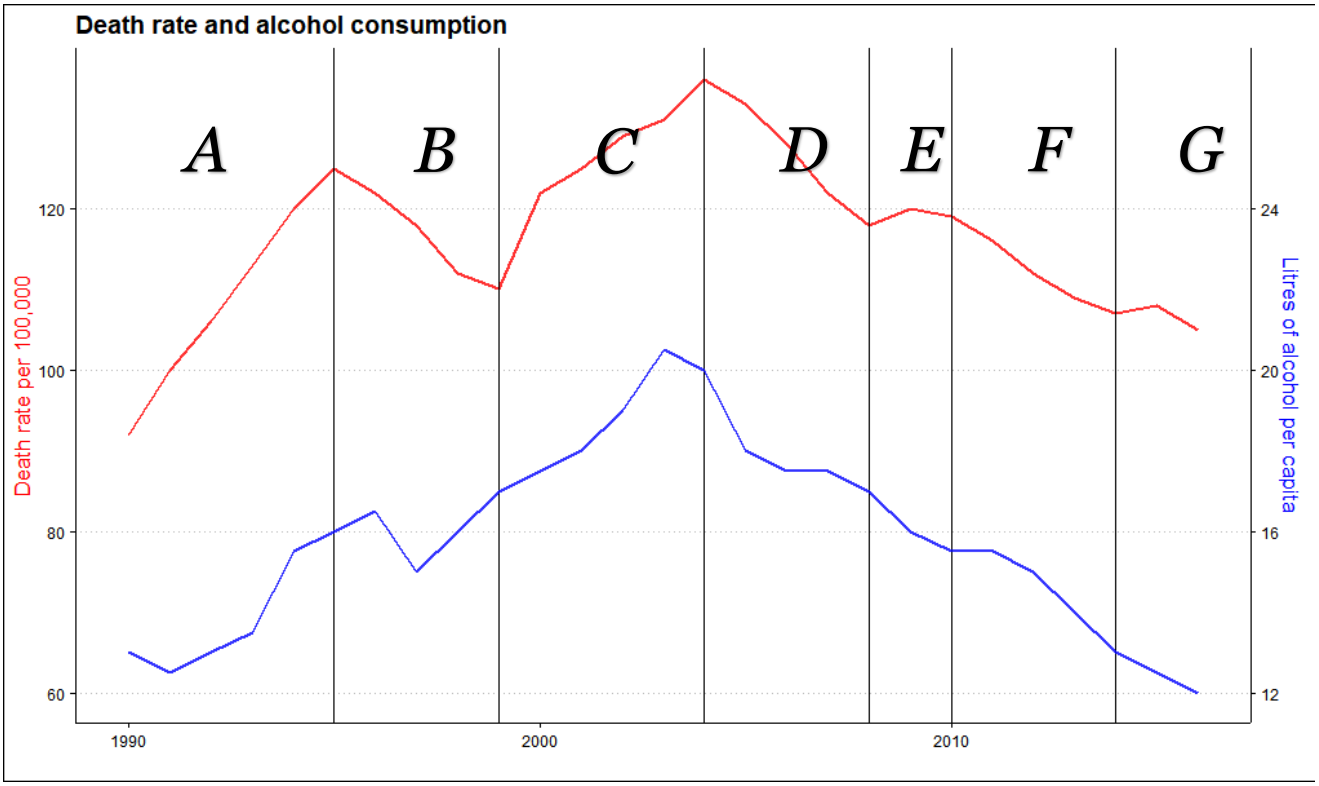
In 2016 the MUP on spirits was increased again, although it was still below its 2014 level. Furthermore, a minimum retail price on sparkling wine was implemented and set at 164 rubles per 750ml bottle (roughly R32 per bottle) in 2016 (Lenta.ru, 2016). The annual increases in the MUPs are established several years in advance by governmental decrees (WHO, 2020). In 2016, the minimum unit price for vodka was 14.25 roubles (roughly R2.80), for cognac 24.16 roubles (roughly R4.70), and for brandy 21.98 rubles (roughly R4.30) (Lenta.ru, 2016). It is unclear why different minimum prices apply to different alcoholic beverages.

A likely explanation is that vodka is the most popular alcoholic beverage, especially for birthdays (Yakovlev, 2018), and it has a history of artificially low prices.

The role of alcohol policy in addressing mortality

From the mid-1990s, the Russian government substantially restructured the alcohol market and introduced a number of alcohol-control policies. One study analyses the impact of alcohol policies on mortality rates in the Russian Federation from 1990 to 2018. The study identifies seven distinct alcohol policy regimes, each corresponding to different periods, to assess their impact on mortality (Neufeld *et al*. 2020). Figure 6 below indicates the death rate per 100,000 of the Russian population (red line) and alcohol consumption per capita in litres of alcohol (blue line). The period 1990 to 1994 (A) is used as a baseline period in which the increase in deaths can be seen. Periods with an active policy and enforcement (B, D, and F) coincide with decreasing trends in mortality, whilst periods of relative inactivity (A and C) coincide with increasing trends in mortality. Period E (2008-2009) is identified as a period of less intense activity and period G (2014-2018) also has less intense activity, but nonetheless saw an overall stricter control of the alcohol market. The decrease in the mortality rate since 2004 is primarily ascribed to a decrease in mortality due to cardiovascular disease and in external causes associated with alcohol-related harm (Shkolnikov *et al*., 2013: 920 & 937).

Figure 6: Trend in the death rate per 100,000 people in Russia (red line)reported on the primary vertical axis and the trend in litres of alcohol consumed per capita for people over 15 years (blue line) reported on the secondary vertical axis.



***Source**: Based on the author's calculations using Neufeld et al (2020) and World Health Organization (2019).*

Figure 6 provides compelling evidence that trends in alcohol policy are associated with changes in mortality trends. Periods of effective alcohol policy coincide with decreases in mortality and alcohol consumption.

Importance of pricing policies in the Russian Federation

The Russian Federation has implemented many alcohol-related policies. This section investigates to what extent reductions in mortality rates can be ascribed to alcohol pricing policies, although it is difficult to isolate the effect of a single policy when it is being implemented alongside other policies. The price elasticity of demand for alcohol is a measure of how sensitive consumers are to changes in the price of alcoholic beverages. More specifically it indicates by what percentage the quantity of alcohol consumed would decrease for a 1% increase in the price of alcohol. According to one study, the price elasticity of demand for men who are heavy drinkers lies between -0.36 and -0.61, which implies that a 10% increase in the price of alcohol is expected to decrease alcohol consumption by between 3.6% and 6.1% among this group of drinkers (Yakovlev, 2018). A 50% increase in the price of the cheapest vodka was shown to

decrease mortality rates by 20% among men aged 18 to 29, and by somewhat lower percentages for older age groups (Yakovlev, 2018). This means that a 50% increase in the price of the cheapest vodka would prevent the premature deaths of approximately 30,000 to 50,000 men per year, which is between 0.04% and 0.06% of the working age population (Yakovlev, 2018).

Addressing unintended consequences

When recorded alcohol is regulated, there may be spill-over effects to the unregulated alcohol market. One study of the substitution effects between different alcoholic beverages found that vodka, which is part of the regulated alcohol market, and samogon, a homemade alcoholic beverage also referred to as moonshine, are substitutes (Andrienko & Nemstov, 2006). Unrecorded alcohol consumption is a particularly important issue in Russia. It accounted for 53% of total alcohol consumption in 1994, 45% in 2001, 24% between 2008 and 2010 and 34% in 2017 (Neufeld & Rehm, 2018), although by its nature it is notoriously difficult to estimate accurately. Unrecorded alcohol in Russia comes from four sources: (1) homemade alcohol (29%), (2) surrogate alcohol (22%), (3) illegal cross-border smuggling (6%), and (4) other illegal production (43%) (World Health Organization, 2019).

In 2005, President Vladimir Putin addressed the problem of alcohol consumption and its harms and made specific mention of the dangers that arise from surrogate alcohol consumption (Neufeld & Rehm, 2018). Poisoning related to alcohol occurs frequently in Russia. For example, in December 2016, 70 people died in Irkutsk from drinking surrogate alcohol (bath lotion) which was incorrectly labelled (World Health Organization, 2019). A policy that exacerbated the surrogate alcohol problem was specific cosmetic and perfumery products that were exempt from alcohol regulation in 2007 (World Health Organization, 2019). This inconsistency allowed cheap "colognes and cosmetic lotions", which were then consumed as surrogate alcohol, to be sold legally in supermarkets, smaller shops, and even vending machines (Neufeld & Rehm, 2018). This loophole has since been closed with the prohibitions on the sale of certain forms of surrogate alcohol (e.g., prohibiting sales from vending machines, setting minimum prices at the same level for beverage alcohol as for cosmetic lotions containing more than 28% of alcohol, and prohibiting the use of toxic denaturing agents). For example, the use of methanol in windshield wiper fluid was banned—although this ban was not always enforced, and lead to poisoning deaths in homeless and other highly marginalized populations (Neufeld, Lachenmeier, Hausler & Rehm, 2016).

The policies mentioned in previous sections were not only aimed at reducing consumption of recorded alcohol, but in some cases were also implemented to address the spill-over effects on unrecorded alcohol.

The reduction in unregistered alcohol consumption over time has been partially ascribed to the implementation of the EGAIS system (Khaltourina & Korotayev, 2015). Another contributing factor was the minimum capital requirements, which drove smaller producers that contributed to the unregulated alcohol market, into bankruptcy (World Health Organization, 2019). The success of these policies points to the importance of measures that address spill-over effects.

Conclusion

This study has provided a broad overview of the different alcohol-related policies implemented in the Russian Federation contextualizing the role of alcohol in the Soviet Union and the Russian Federation. The Russian Federation is an outlier in both its alcohol consumption and mortality rates. There is a strong relationship between alcohol-related policies, alcohol consumption, and mortality rates. Specifically, the Russian mortality crisis was fueled by the relaxation of alcohol policies and measures that kept the price of cheap vodka artificially low when prices and wages increased as the country made its transition from a command to a market economy.

Minimum pricing policies applied to specific drink types have contributed to reducing mortality and preventing harm in Russia, but the effect of these policies should be viewed in the context of other complementary policies and it is impossible to tease out the independent effects of MUP. The Russian Federation has implemented policies at the same time which are expected to impact the same measures in the same way, for example the implementation of minimum retail prices coincided with a substantial increase in excise taxes which are both expected to increase the price of alcohol. It is then difficult to establish what proportion of the price increase was due to the excise tax increase and what was due to the increase in minimum retail prices. Although the Russian Federation is very different from the Western Cape, there are several lessons to be learned. Firstly, if the MUP is set too low, it becomes ineffective. The reduction in the MUP in 2015 had adverse effects on both the Russian vodka market and consumption. Secondly, the MUP in Russia was, at least at the outset, focused on vodka, the drink of choice for most Russians and the cheapest alcohol in many cases. Should an MUP be implemented at different rates, for different alcohol categories, there is likely to be substantial substitution to cheaper alternatives. This would greatly undermine the effectiveness of the policy. The exemption of certain perfumery and cosmetic products from alcohol regulation serves as a warning of the adverse consequences of policy inconsistency. It caused a shift towards the consumption of surrogate alcohol which was more easily accessible and led to increased health risks and even death.

Thirdly, pricing policies do not operate in a vacuum. The Russian Federation implemented what can be referred to as an alcohol policy package, with policies addressing availability, pricing, drink-driving, and healthcare. These policies provided support for the minimum pricing policies. This highlights the importance of policy consistency together with specific measures to address unintended consequences. The implementation of the centralized electronic tracking and monitoring system of alcohol (EGAIS), which improved the government's ability to regulate the alcohol market, reduced the prevalence of unregistered alcohol, and improved consumers' access to information, was especially important in this regard.

Finally, the government should specifically address unintended consequences associated with minimum prices. In both Russia and the Western Cape such issues might primarily be problems with unrecorded alcohol. While it is difficult to control home production, Russia was able to curb the large-scale production of unregistered alcohol substantially by means of the EGAIS system which increased transparency and accountability. Many countries have Track and Trace systems. In fact, SARS contemplated introducing such a system in South Africa for tobacco products in 2019. A track and trace system can easily be extended to alcohol products, as has been effected in numerous countries (Godden & Allen, 2017). The minimum capital requirements placed on producers in Russia in 2006 also contributed to alcohol control by driving smaller producers, many of whom were involved in the production of unregistered alcohol, out of the market.

Minimum pricing policies, implemented alongside complementary policy measures, have been successful in the Russian Federation. They have contributed to substantial and enduring decreases in consumption and improved mortality and health outcomes.

CHAPTER 5: BOTSWANA

Introduction

This section will be concerned with the implementation of the levy – which has come to be known as the Presidential Levy – on alcohol in Botswana. MUP and levies are both priced-based policies. Both policies are premised on the notion that consumption of alcohol is influenced by price. A levy is a tax-based policy and can typically only be implemented at the national level. Due to Scotland and the Northern Territory (NT) not having taxing authority, as they are regions within countries, MUP arose in both jurisdictions as a price-based policy instrument to combat the harmful use of alcohol. The implementation of the Presidential Levy in Botswana and the challenges it faced also offer important lessons for the Western Cape's possible implementation of MUP.

Alcohol harm in Botswana

Botswana is a landlocked country in Sub-Saharan Africa that shares its borders with South Africa, Namibia, and Zimbabwe (Pitso and Obot, 2011). In 2019, the population of Botswana stood at 2.3 million (World Bank data, 2019). While the country is generally recognised as an economic success story on the African continent, the HIV and AIDS epidemic has led to significant health repercussions and health-related spending within the country. Alcohol consumption and its related harms are believed to contribute to the high rates of HIV and AIDS infections in the country (Pitso and Obot, 2011).

It is estimated that around 75 people in Botswana die daily from causes related to alcohol (Parry, 2012). Around 61% of these deaths are caused by the interaction between alcohol and HIV/AIDS (Parry, 2012). This relationship is multifaceted. However, there are two main ways in which alcohol relates to the HIV and AIDS burden. First, alcohol reduces user inhibitions, thus increasing sexual risk-taking behaviour which leads to an increased risk of contracting HIV and AIDS. Secondly, alcohol impacts an individual's adherence to the use of ARVs (Parry, 2012). The problematic levels of drinking in Botswana, and the impact these have had on the health of individuals, prompted intervention by the government in 2008.

History of alcohol use in Botswana and policy technicalities

In pre-colonial Botswana, the most common form of alcohol was a traditional homemade beer made from sorghum and millet. These alcoholic beverages were consumed communally after harvest seasons

(Molamu, 1989; Suggs, 1996). In the post-colonial era, due to the influx of profit-driven liquor businesses and the liberalisation of the Botswanan market, "Western" or modern forms of beverages with a high alcohol content were introduced to the country (Sebeelo, 2021). This development changed how the people of Botswana consumed alcohol, as alcohol was no longer subject to seasonality. Many traditional leaders, and in particular Chief Khama III, who reigned from 1875 to 1923, took issue with alcohol, which was viewed as “the white man’s drink…which kills men’s bodies” (Sebeelo, 2021).

In 1966 Botswana gained independence. Following independence, considerable efforts were devoted to the regulation of alcohol and its associated harms (Sebeelo, 2021). Since then, the government of Botswana has introduced several laws and instruments to combat the problem of alcohol in the country. Chief amongst these is the *Trade Act* of 1986. which formalised liquor licenses and procedures, the *Liquor Act* of 2003, which established a liquor control authority, and the 2008 *Alcohol Tax Levy* (Sebeelo, 2021).

In 2008, Lt. General Ian Khama, son of Botswana’s first president, Sir Seretse Khama, and great-grandson of Chief Khama III, was elected president of Botswana. A teetotaller, the president appeared to wage a "war" on alcohol use and abuse within the country (Sebeelo, 2020). Khama’s dislike for alcohol is often attributed to his Christian beliefs and his father’s heavy drinking (Lucas, 2008). The president's distaste for the substance is evident in his statement that “alcohol is an enemy, anything that causes people to lose their lives is an enemy” (Herrick, 2015).

Having identified alcohol as a global health concern, the World Health Organization (WHO) singled out Africa as lagging behind in the uptake of alcohol taxation, a policy recommended by the WHO for combatting alcohol misuse and related harms (Herrick, 2015). Taking the WHO recommendation on board, Botswana introduced a 30% alcohol tax levy – known as the Presidential Levy –in 2008 (Sebeelo, 2020). Originally the levy was set at 70% but was reduced to 30% following industry pushback. The rationale behind the levy was to increase the price of alcohol products and decrease excessive drinking amongst problem drinkers and in particular the youth (Sebeelo, 2020; Pitso and Obot, 2011).

As with the MUP in the NT, additional measures were introduced to complement the levy. First, due to the separation of the *Trade and Liquor Acts (2003/4)* and the 2005 *Liquor Regulations*, the operating hours of licensed premises were significantly reduced. Secondly, the drafting of the Traditional Beer Regulations (2011) made it illegal to sell traditional beer from residential dwellings – effectively outlawing shebeens – and lastly, an amendment to the Road Traffic Act (2008) resulted in harsher penalties for alcohol-related offences (Sebeelo, 2021).

As with the NT *Living with Alcohol Program*, it was intended that the proceeds of the levy would finance the country's Alcohol Campaign – activities and projects designed to minimise the negative consequences of alcohol use (Pitso and Obot, 2011).

Importantly, Botswana is a member of the South African Customs Union (SACU). As a result, all revenue collected by Botswana through excise taxes and import tariffs is placed in a common pool and divided amongst the union's five members. A member country's Value Added Tax (VAT) revenue is not placed in the common pool. In essence, by calling the alcohol levy a levy, the Botswana government avoided having to place the revenue into the SACU pool and could thus devote the proceeds to its Alcohol Campaign.
In November 2010, two years after the levy had first been introduced, the government of Botswana increased the levy on alcohol to 40% and established the Alcohol Consumption Control Unit. The purpose of the Unit was to educate the public about alcohol-related harm and addictions related to excessive consumption of alcohol (Pitso and Obot, 2011). In addition, the *Levy on Alcoholic Beverages Fund (Amendment) Order* of 2010 made provision for an Alcohol Levy Implementation Committee to oversee the disbursement of the levy funds. The amendment also outlined the purpose of the alcohol levy fund and the activities and projects it sought to institute to combat alcohol abuse. The fund's proposed activities were to run educational campaigns on the harms of alcohol abuse, to advocate for alcohol-free youth activities, to institute support measures for the rehabilitation of the victims of alcohol abuse, to monitor and limit alcohol advertising in sporting activities, and to complement law enforcement and curb drink-driving.

Industry pushback

Despite the decrease in the levy from its intended level of 70% to 30%, Kgalagadi Breweries Limited (KBL) and Botswana Breweries Limited (BBL), which were both owned by South African Breweries Miller (SABMiller) at the time, asserted that the 30% levy would not solve the problem of alcohol abuse in the country (Pitso and Obot, 2011). However, it is more likely that the industry's concern was with the impact on their profits (Sebeelo, 2020). In response to the levy, both KBL and BBL approached the High Court of Botswana for an interim order preventing the government from implementing the 30% levy on alcohol products (Pitso and Obot, 2011). Despite the legal challenge, the levy was implemented and was subsequently increased to 40% in 2010, 45% in 2012, and 55% in 2014 (Herick, 2015). In addition to the pushback from the industry, the media was full of articles condemning the regulations (Sebeelo, 2021). Headlines about the President's "War" and "Jihad" on alcohol consumption in the country were common

(Sebeelo, 2021). Sebeelo (2021) notes that the headlines may have adversely influenced the public's perception of the alcohol reforms.

Arguments for and against the Levy

The main proponent of the Alcohol Levy appears to be the former president of Botswana Ian Khama, who was likely motivated by anti-alcohol views. While the levy and its accompanying policies were implemented to curb the harmful consumption of alcohol, the government did not conduct any known nationally representative empirical study before implementation. However, it appears that the decision to implement the levy was motivated by the WHO, who recommended alcohol taxation as an effective means of reducing alcohol consumption and related harms. Thus, while the intentions of the levy were clear, the processes undertaken to formulate it were not (Sebeelo, 2021). The government did not appear to substantially use the findings of the independent research conducted by Parry & Voetsch (2012) to motivate for the later increases in the levy to 50% and then 55%. This is perhaps the greatest flaw of the levy, as it caused it to receive substantial pushback from citizens, who viewed the increase in the price of alcohol as arbitrary and unnecessary (Sebeelo, 2021).

Opponents of the levy, mainly SABMiller, argued that if the levy was successful it would lead to the closure of various liquor outlets and result in job losses. This argument is likely to be made in the Western Cape concerning MUP, given the strength of the wine and beer industries in the province. Opponents of the levy in Botswana argued that in the face of an increase in the price of alcohol, drinkers would substitute their preferred alcohol with cheap, illicit products with a high alcohol content (Parry et al., 2012). This argument has been made multiple times in South Africa as well, and has reached fever pitch during the many alcohol sales bans during the Covid-19 lockdowns in 2020 and 2021.

The arguments brought forth by the opponents are unsurprising, given the economic interests of players such as SABMiller (Pitso and Obot, 2011). In general, the alcohol industry supports alcohol policies that show little evidence of effectiveness, such as educational campaigns, as such policies do not lead to changes in consumption (Pitso and Obot, 2011). Additionally, the alcohol industry prefers to overplay the economic importance of their activities within a country, as illustrated in the arguments provided above (Pitso and Obot, 2011).

Outcomes of the levy

Several studies evaluating the impact of the Levy have been conducted. The most notable of these evaluations were conducted by Parry & Voetsch (2012). They found that by increasing the price of alcohol, the levy led to a decrease in alcohol consumption to around seven litres of pure alcohol per capita in 2010/11 and 2011/12. While Parry & Voetsch (2012) note that the reduction in consumption was largely driven by the alcohol levy, they also acknowledge the contribution of other interventions initiated in 2008. While the Northern Territory evaluation studies attempted to separate the effects of the MUP and other policies, Parry & Voetsch (2012) indicate that this was not possible in their study.

In terms of road fatalities and accidents after the implementation of the levy, Parry & Voetsch (2012) found that these incidents had decreased significantly. However, they acknowledged that they were unable to determine to what extent improved road traffic enforcement, reduced alcohol operating hours, and alcohol awareness campaigns had influenced this phenomenon. Sebeelo (2020) investigated the impact of the alcohol levy on beer drinkers. Sebeelo (2020) found that beer drinkers were opposed to the levy due to the perception that the levy was purely politically motivated. Individuals resisted through the establishment of social drinking networks and the seeking out of alternative drinking venues avenues (Sebeelo, 2020). Sebeelo (2020) concluded that policies that are not evidence-based are likely to face resistance from consumers. Botswana would have benefitted had the government communicated to the public the benefits of the levy in terms of reduced harms (for instance harms related to road fatalities). Additionally, the levy funds should have been used on evaluated awareness campaigns to reduce alcohol-related harms and to strengthen the capacity of the Ministry of Health in this area, as recommended by Parry & Voetsch (2012).

In his evaluation, Herrick (2016) noted that the government neglected the geographical and spatial aspects of alcohol use in Botswana when implementing the levy. Herrick (2016) contended that, as a result, the levy resulted in unintended consequences such as bootlegging and the importation of alcohol from neighbouring South Africa. He concluded that imported international knowledge may undermine regional and local knowledge, leading to these unintended consequences (Herrick, 2016).

Suggested improvements to the Levy

Several recommendations were made by Parry & Voetsch. (2012) in their evaluation report. The first recommendation concerns the formula for calculating the Alcohol Levy. To have a larger impact on consumption, Parry & Voetsch (2012) suggested that alcohol products be taxed according to their strength as with MUP which places a price on the units of alcohol, thus “taxing” alcoholic beverages according to

their strength. In addition, to ensure that the levy does not disadvantage local products, Parry & Voetsch (2012) also suggested that all alcohol products sold in Botswana are taxed at the point of sale and not on landed costs.

In the NT, the MUP policy was supplemented with additional interventions to combat alcohol abuse more fully. The Botswana presidential levy was also introduced with supplementary interventions, but these interventions, unlike the MUP, were funded by the levy itself. The third recommendation concerns the content of the Alcohol Campaign. Parry & Voetsch (2012) argued for increased funding to be devoted to support measures to rehabilitate victims of alcohol abuse, to monitor and limit the role of alcohol advertising in sporting activities, to review the practice related to the sale of alcohol, and to complement law enforcement measures to curb drinking and driving. This recommendation highlights the importance of supplementing the MUP policy with additional interventions.

The last set of recommendations relates to strengthening the Ministry of Health's Alcohol and Substance Abuse Division. Parry & Voetsch (2012) recommended increased staffing in the Ministry of Health, particularly of individuals with expertise in alcohol abuse treatment, policy, monitoring and evaluation, and health promotion. Additionally, Parry & Voetsch (2012) noted the need for staff to have access to the latest literature related to the topic of alcohol and related harms, to ensure that they institute evidence-based interventions.

Conclusion

The implementation of the Presidential Levy in Botswana holds important insights for South Africa. As in Botswana, the alcohol industry in South Africa is a significant player that is not likely to accept MUP, and any policy impacting the price of alcohol is likely to be met with pushback. In the face of this, it is important that any policy impacting the price of alcohol is backed by strong empirical evidence as particularly occurred with the Scottish implementation of MUP. The levy did lead to some improvements, in terms of decreasing alcohol consumption. However, due to the lack of ongoing research, the negative voices of the media, the alcohol industry and industry-friendly stakeholders seem to have drowned out those of the public health community and individuals who may have been affected by others' harmful use of alcohol. Whilst the benefits of the levy were reported, the media in the main were more inclined to report on negative findings based on qualitative studies involving mainly community members, industry players and other stakeholders with business interests in alcohol. These stakeholder opinions, which were not substantiated, suggested that the levy had negatively impacted: (i) the economy (with job losses); (ii) profits and jobs of

the alcohol industry; and (iii) drinkers themselves in terms of their (a) personal and household incomes; (b) consumption patterns; (c) purchasing patterns; and (d) engagement in other risky and illegal activities (Morojele, Dumbili, Obot & Parry (2021).

The key lesson is that for the MUP in South Africa to be successful it is imperative that empirical studies predicting its impact at different thresholds are conducted, and that these findings are adequately communicated to ensure overall support for the policy. Ultimately, the probability of the policy success will depend on the extent to which the public is convinced of its necessity. This public awareness was not present in Botswana.

The Botswanan alcohol levy is still in place. However, to our knowledge, other than Parry & Voetsch's evaluation in 2012, no comprehensive evaluation has been conducted on the levy's impact. While the case study of Botswana provides us with possible insights into the hurdles a price-based policy in the Western Cape may face, it does not provide a clear-cut answer as to the success of such policies on the continent. However, this is largely due to issues of implementation and evaluation and not the instrument itself.

CHAPTER 6: LESSONS LEARNED, RECOMMENDATIONS AND CONCLUSION

Whilst this review outlines evidence of the effectiveness of an MUP in reducing harmful alcohol use and associated consequences, it also highlights key challenges that may arise in the move to an MUP in the Western Cape. The review provides useful guideposts for researchers and policymakers who will be involved in the implementation process. Whilst there are variations in country experiences, such as the extent of legal challenges, dissimilarities in MUP (for example MUP on all alcohol beverages versus MUP on specific alcohol products), as well as socio-economic and other differences, each country offers specific lessons. In this chapter we provide an overview of our main findings across the 4 case studies.

6.1 Overview of country specific rationale for MUP policy implementation

The World Health Organisation (WHO) has identified tax increases on alcohol products as one of the most cost-effective means of reducing alcohol consumption, and thus of improving public health (Anderson et al. 2021; World Health Organisation, 2014). The literature on the topic, however, recognises that excise taxes and price increases have different effects on different categories of drinkers. For instance, a 2009 systematic review found that heavy drinkers responded less to price increases than moderate drinkers, suggesting that excise tax increases are not well suited for targeting heavy drinkers (Wagenaar et al., 2009). Furthermore, heavy drinkers tend to buy cheaper, and more potent, alcohol than moderate drinkers (Gill et al., 2015). Given these findings, the countries discussed in this review implemented minimum unit prices (MUPs) on alcohol as a means of targeting heavy drinking, removing cheaper alcohol from the market, and thus improving overall health outcomes. Scotland, specifically, offered strong and consistent empirical evidence of the relationship between alcohol price, consumption, and related harms as their rationale for an MUP on all beverages, whilst the Northern Territory was guided by the evidence that low-cost alcohol contributes disproportionately to alcohol-related harms in the NT. This was further supported by evidence that cheap alcohol encourages higher rates of alcohol consumption and thus alcohol-related harms (The Foundation for Alcohol Research and Education, 2017). In Russia, the motivation for an MUP was linked to their high mortality rate (World Health Organization, 2019). This high mortality rate had largely been associated with heavy drinking and prompted measures to address the “Russian Mortality Crises”. Similarly, problematic levels of drinking in Botswana, and the subsequent impact these have had on the health of individuals in the country, prompted intervention by the Botswanan government in 2008 (Parry & Voetsch, 2012).

6.2. Key lessons from the jurisdictions studied strengthening arguments for MUP policy implementation[12].

MUP policies are likely to face harsh criticism from those opposed to its implementation. All the countries in this review faced some degree of opposition, with opponents' coalitions mostly led by the alcohol industry, often with support from some academic institutions, as well as some economists. There is likely to be similar opposition and resistance in South Africa, since the South African alcohol industry is a significant player in the economic arena and given experience with previous attempts to introduce stricter alcohol control measures such as the 2013 Control of Marketing of Alcohol Beverages Bill (Bertscher, 2017; Bertscher, London, Orgill, 2018) and given the substantial pushback on government restrictions on alcohol to manage hospital capacity during the Covid19 pandemic; any policy impacting the price of alcohol is therefore likely to be met with disapproval and pushback. It is anticipated that the resistance in the WC is likely to come from alcohol producers that stand to lose from an MUP (particularly those producing cheap liquor, such as sugar-fermented alcohol aimed at the poor and at heavy drinkers), as well as groups that are, out of principle, opposed to any government interference in the economy. There is also likely to be pushback from the producers of cheap bag-in-box wines, such as Orange River Cellars, which reportedly make up to 30% of their profits from such products. However, other groups, for example retailers of expensive alcohol and restaurants, are unlikely to oppose an MUP, because they have nothing to lose, and much to gain.

Whilst the case studies provide details of specific country pathways to the implementation of MUP policy, the following points were synthesized for consideration by the Western Cape government from the reviews conducted.

6.2.1 Importance of empirical evidence in leading MUP discussions

The importance of empirical evidence for establishing a case for the implementation of an MUP has been highlighted extensively throughout this review. Empirical quantitative evidence on harmful patterns of alcohol use and associated alcohol-related harms were effectively used by the governments of Scotland and the Northern Territory to back proposed MUP policies. The Botswana presidential levy on alcohol was also prompted by data on problematic levels of drinking in Botswana, and the impact these levels had on the health of individuals. The Russians were aware of the link between consumption and very high levels of mortality, and this influenced their decision to implement an MUP. In Scotland, research evidence from the

[12] This section was compiled by combining evidence from all 4 country reviews.

University of Sheffield's Alcohol Research Group, which showed that MUPs have the potential to target heavy drinkers and reduce ills caused by alcohol use, resulted in the introduction of Scotland's MUP. Underpinning this decision was quantitative evidence on high alcohol-consumption rates in Scotland and the association between harmful alcohol use and hospital admissions and stays as a result of alcohol-related injuries and diseases. Rates of alcohol-related hospital stays rose steadily between the 1980s and the 1990s, followed by a steep increase in the 2000s and a peak of 855 per 100,000 population in 2007. In Russia, the MUP on spirits (primarily vodka) came into effect because of a marked increase in the country's mortality rate, which peaked in 1994. The high mortality rate was largely associated with heavy drinking. In the Northern Territory, the move to implement an MUP was a direct response to the culture of heavy drinking, particularly amongst indigenous Australians, which was linked to a history of colonialization and social exclusion.

For an MUP in South Africa to be successful, it is imperative that empirical studies predicting its impact at different thresholds are conducted, and that these findings are adequately communicated (including in annual budget speeches in the provincial legislature by the relevant MEC) to ensure overall support for the policy. Education on the need for peer reviewed research, empirical vs anecdotal evidence should assist media and public to evaluate vested interest propaganda.

As a start, and in conjunction with the country reviews, REEP in association with Ms. Naomi Gibbs of Sheffield University and the South African Medical Research Council, conducted a modelling appraisal of minimum unit pricing (MUP) in the Western Cape province of South Africa. The aim of the appraisal is to estimate the impact of the MUP on alcohol consumption, alcohol spending, taxation, retail revenue, and health outcomes (more specifically HIV, TB, interpersonal violence and self-harm (intentional injury), road injury, liver cirrhosis, and breast cancer).

6.2.3. Industry engagement in MUP implementation

When considering an MUP policy for the Western Cape, it is crucial to reach some level of consensus on the level of engagement that government will have with the liquor industry. Whilst some countries faced direct opposition from the liquor industry, other countries struggled with political interests conflicting with public health interests.

The Scottish government experienced strong opposition from the Scottish Alcohol Industry, whose main aim was to delay the implementation of the MUP, which they were able to do for six years. Although the

industry's legal battle was ultimately lost, the opponents ensured that the MUP policy was implemented with a *sunset clause*, which stipulated that it end after 6 years unless renewed. This ran counter to suggestions by the University of Sheffield (the main advocate of the policy) that the policy be in place until it reaches its full effect (i.e., in 20 years) as predicted by their alcohol model. In practical terms, the sunset clause meant that after the set period (i.e., in May 2024), the policy will cease to operate unless the Scottish Government votes it into law again. According to the regulations, their decision will be informed by evidence on whether MUP has negatively or positively impacted alcohol misuse and its associated harms. The MUP legislation also made it mandatory to report the operation and effects of MUP to parliament by the end of the fifth year, i.e., a year before the law expires.

The Northern Territory, on the other hand, took a more collaborative approach during initial reviews and discussions on the value of implementing MUPs. It was argued that the Northern Territory government's collaborative approach would take into account all concerns mentioned or raised by role-players in the industry. Although the policymakers did not compromise on the overall integrity of the policy and the MUP was approved by the NT government and implemented swiftly, facing no legal opposition at this point, there was a sudden change to the suggested MUP. The suggested MUP of AUS 1.50 was reduced to AUS 1.30, based on the perception that this would be more palatable for the public. The original MUP of AUS 1.50 would have affected certain low-cost beer products and to ensure that the MUP did not have an effect on these products, the alcohol industry placed pressure on the NT government to reduce the proposed MUP. In Russia, various sectors of the alcohol industry lobbied energetically either for or against the MUP, according to their independent interests.

The degree to which the alcohol industry should be engaged in discussions on the implementation of MUPs should be given careful consideration if the Western Cape is to take advantage of the experiences of other countries. Whilst MUPs were successfully implemented in these two countries, the industry was still anxious to secure a voice in the design of the policy. Careful consideration should also be given to the lessons learned from tobacco control, where the industry was excluded from policy discussions on the grounds that they could have no positive contribution to make. In fact, Article 5.3 of the Framework Convention on Tobacco Control, of which South Africa is a partner, clearly states that the aims of the tobacco industry are in direct conflict with public health and that governments have an obligation to "to protect their public health policies related to tobacco control from commercial and other vested interests of the tobacco industry" (World Health Organization, 2003).

6.2.4. Technicalities of implementing an MUP

The relative prices for different categories of alcohol are different in Scotland, the NT, and Russia. For instance, in Scotland cider is the cheapest form of alcohol, in Russia it is vodka, and in the Northern Territory cask wine. The last is probably most similar to the Western Cape although cheap ales can also be included as per the Liquor Products Amendment Act (2016) which was signed into law in September 2021 (see Report 1 for a discussion of relative prices of different categories of alcohol in the Western Cape). Given its history of wine production, the per capita consumption of wine in the Western Cape is higher than in the rest of the country (van Walbeek & Chelwa, 2021).

There is currently no international standard for a "unit" of alcohol or a "standard drink". A unit in Scotland is 10 ml or 8 grams of pure ethanol; in Canada it is typically 17.05 ml (although some provinces use slightly different standards as well). In the Russian Federation a unit is defined as 15 ml of pure ethanol, which is the same as in South Africa.

The formula for applying the MUP to the retail price of alcoholic beverages is the following:

Retail price = [Volume of the beverage (in ml) x (ABV percentage/100) x MUP per unit]/(ml of pure ethanol per unit)

For example, for a 750 ml bottle of whisky, with an ABV of 43%, sold in Scotland, the minimum retail price would be [750 x (43/100) x 0.50]/10 = £16.13. A 2-litre container of cider, with an ABV of 8%, would be sold at a minimum price of [2000 x (8/100) x 0.50]/10 = £8.00.

Should the MUP value be set at R8.00 per unit in South Africa, a case of beer (24 x 750 ml bottles), with an ABV of 5.5%, could not be sold for less than: [24 x 750 x (5.5/100) x 8]/15 = R528. A 750 ml bottle of brandy, with an ABV of 43%, could not be sold for less than [750 x (43/100) x 8]/15 = R172.00.

The MUP is applied at the retail level, that is, to customers purchasing from licensed premises. In Scotland, the MUP applies to all sales of alcohol products with an ABV of above 0.5%. It is permissible for traders to buy alcohol outside Scotland to sell in Scotland at the higher minimum price (when the MUP is applied). Retailers are still permitted to sell liquor at a discount, but the discounted price must still be above the MUP.

What should also be noted for an MUP in the Western Cape is that when the MUP legislation was initially passed in the Scottish parliament in 2012, it was set at GBP 0.50, and six years later, when the policy was implemented, it was still set at the same value. This implies that the MUP policy did not take into account

the fact that inflation eroded the real value of the MUP in the period between the passing of the legislation and its implementation, nor has it been increased since implementation. It is therefore important that the Western Cape update the MUP value on a regular (probably annual) basis to prevent inflation eroding the real value of the MUP. The inflation rate in South Africa is higher than in Scotland or Australia, which makes regular adjustment of the MUP even more important.

In October 2018, the Northern Territory instituted a minimum unit retail price per standard drink of AUS 1.30 as an automatic condition for a liquor license (Liquor Act 2019). In the NT a standard drink is defined as the volume of a liquor product that contains 10g (12ml) of pure alcohol. The minimum price in the NT applies to the retail sales price of all alcohol products, including off-trade (bottle stores, supermarkets, online) and on-trade (restaurants, hotels, bars, pubs) sales. The MUP of AUS 1.30 has had the greatest impact on the sales of cask, bottled, and fortified wine because they are cheap and high in alcohol content. This corresponds closely to the situation in the Western Cape where wine and cheap ales have the greatest impact. The NT MUP specifically targets wine and wine-based beverages whilst having little or no effect on beer, spirits, and other beverages as these are already sold above the MUP level. It is important that all alcohol beverages are included in the MUP, as otherwise other drink types could choose to move into the cheap alcohol market. In the NT, to ensure that the impact of the MUP does not diminish over time, it is indexed against wage levels.

Additionally, in the NT (as in Scotland) the sale price of a liquor product is inclusive of the following: any discounts given or offered to the purchaser, any refunds given or offered to the purchaser, and any amount to be paid for shipping the product to the purchaser (Liquor Act 2019). The Liquor Act prevents the manipulation of the sale price by prohibiting the following: the bundling of two or more liquor products, the selling of liquor products with non-liquor products at a price that appears to be below the minimum sale price, and the sale of liquor products at a price below the minimum sale price by accepting gift cards, coupons, or tokens (Liquor Act 2019).

In Russia, different minimum prices apply to different alcoholic beverages. Sources in the literature suggest that this could be influenced by the fact that vodka is the most popular alcoholic beverage, and that Russia has historically used legislation to keep the price of vodka artificially low. An MUP on vodka was set at 16.54 Roubles (R3.31 per 15 ml of pure ethanol) in 2015. The policy has since expanded to include spirits, but is not inclusive of all drink types, although there is also an MUP on sparkling wine. The MUP for vodka has been inconsistently applied, however, with MUP levels increasing and decreasing as a result of conflicting economic and political motives.

It is evident that a differential application of the MUP to different alcohol categories would strongly undermine the policy in a South African context, and therefore consideration should be given to the Scottish experience, where the MUP has been applied consistently across beverages.

6.2.5. The importance of government, civil society, research and academic support

It is clear from considering the respective country case studies that partnerships between policy makers, public health and economic researchers, and civil society are important when implementing MUP policies.

Political support for an MUP appears crucial to its success (Parry, 2010). For instance, the Scottish National Party (SNP) played a critical role in the successful passing of MUP legislation in the Scottish parliament and in its implementation. It is evident that the success of a high-profile policy such as the MUP depended on the governing party's full support of the policy. This does not suggest that the Scottish experience was without hurdles, as Scotland underwent a six-year legal battle led by the Scotch Whisky Association, which delayed MUP implementation. On the other hand, the policy has passed more smoothly in certain provinces in Canada and the Northern Territory of Australia, where it has now been adopted without significant delays.

As in the case of Scotland, the Northern Territory government led the implementation of the MUP in the territory. The Northern Territory appears to have had support from all political parties, as the value of implementing MUP was embraced by all from the beginning. The champion for the presidential tax levy in Botswana was Lt. General Ian Khama when he was elected president of Botswana. Ian Khama's support for a tax levy was strongly rooted in personal experience.

The MUPs in these countries also received strong support from research and academic institutions that provided case studies grounded in robust empirical evidence and that included predictive modelling processes. In Scotland, the University of Sheffield's Alcohol Model played a significant role in deciding the level (i.e. 50 pence) at which the MUP should be set. This model is likely to be replicated in the Western Cape with strong support coming from the Department of Economics at the University of Cape Town and the Alcohol, Tobacco & Other Drug Research Unit at the South African Medical Research Council including from civil society organisations such as Southern African Alcohol Policy Alliance (SAAPA) and South Africans Against Drunk Driving. The experience from other countries suggests that strong collaborative efforts from all sectors are vital.

6.2.6. The importance of enforcement of MUPs

In any country, law enforcement forms an integral part of a comprehensive approach to reduce alcohol-related harms. In the Western Cape, law enforcement includes both regulatory compliance, which ensures that liquor license holders and applicants comply with the legislation, and criminal prosecution, which deals with the application of the penalties provided for infractions of the legislation, which would include the MUP when it is implemented. In Scotland, Licensed Standards Officers (LSOs) are responsible for monitoring compliance with the MUP and ensuring that all the required licensing conditions are met. The LSOs are officers appointed by each Scottish Council for a specific area and are responsible for supervising premises' licensing conditions. On its implementation, the MUP became an additional responsibility for LSOs. One of the key tasks of the LSOs in Scotland (with the implementation of MUP) was to train the retailers to understand how the minimum prices for different products were calculated on the basis of alcohol content and how to apply the MUP law. The Trading Standards Officers and Police Officers are also involved in inspection and the enforcement of the MUP. Their enforcement activity crucially focuses on encouraging, rather than forcing, compliance among licensed retailers.

To facilitate enforcement in the NT, the government introduced the Police Auxiliary Liquor Inspectors (PALIs). These are police officers stationed at the entrance of bottle-shop/off-trade outlets to monitor alcohol purchases. The PALIs are permitted to use their discretion in asking for proof of identity.

The Russian Federation also provides useful lessons. The implementation of a centralized electronic tracking and monitoring system for alcohol (EGAIS), which improved the government's ability to regulate the alcohol market, reduced the prevalence of unregistered alcohol, and improved consumers' access to information, was especially important.

In the Western Cape, enforcement could not only assist in ensuring MUP compliance, but also help to address the issue of unlicensed liquor outlets. However, before this can happen current enforcement needs to be underpinned by measures to address the problem of fragmented legislation between national and provincial government, to encourage co-operation so as to make the best use of available resources, whilst increasing the sanctions, and to provide increased numbers of provincial/local authority liquor inspectors (currently minimal) with greater powers. Given that liquor officers would be the frontline enforcers, it is of importance that much of the data relating to MUP be electronically available in order for prices to be checked quickly and easily. It would also be required that these officials fully understand the MUP and be

clear on what is expected of them. Sanctions associated with infraction of the MUP legislation needs to be clearly indicated in the policy. Consideration should also be given to scaled sanctions (for example greater penalties for repeated transgressions) as well as ensuring that mechanisms to enable prosecution are clearly understood.

6.2.7. Importance of both price and non-price interventions

It is evident from findings in Botswana, Scotland, Russia, and the Northern Territory that an MUP policy is likely to be more effective and yield better results when complemented by additional harm-reduction policies and interventions. MUPs should be introduced as a crucial component alongside broader non-price alcohol interventions, such as evidence-based prevention programmes, advertising restrictions, marketing policies (e.g., on sale to minors or point of sale advertising, restricted hours of trade) as well as law enforcement policies (drink-driving, age restrictions). As was seen in the Northern Territory, the MUP, in tandem with the Banned Drinkers Registry (BDR) and the visibility of Police Auxiliary Liquor Inspectors (PALIs), led to significant reductions in harmful alcohol consumption and related harms. Additionally, the NT government also introduced the Alcohol Harm Minimization Action Plan. Its mandate was (1) to reduce the demand for alcohol through education, prevention, or delay of first use and through health promotion activities; (2) to reduce the supply of alcohol through effective regulation; and (3) to reduce the harm caused to individuals, families, and the community through appropriate therapeutic support services.

Although inherently different in form, similar interventions were implemented in Scotland, Russia and Botswana. In Russia, the government introduced an alcohol policy package with policies addressing the availability and pricing of alcohol, drink-driving, and healthcare aspects of alcohol consumption including marketing restrictions. In Botswana, additional measures were introduced to complement the Levy. First, due to the separation of the Trade and Liquor Acts (2003/4) and the 2005 Liquor Regulations, the operating hours of licensed premises were significantly reduced. Secondly, the Traditional Beer Regulations (2011) made it illegal to sell traditional beer from residential dwellings – effectively outlawing shebeens – and, lastly, an amendment to the Road Traffic Act (2008) resulted in harsher penalties for alcohol-related offences (Sebeelo, 2021). Botswana also implemented an Alcohol Campaign ‘Living with Alcohol Program’, funded by the proceeds of the levy. These interventions were designed and implemented to minimise the negative consequences of alcohol use in tandem with the implementation of the levy.

6.2.8. Monitoring and Evaluation Processes

Monitoring and evaluation are critical for building a strong local and global evidence base around any health-related matter. It helps in assessing the diverse range of interventions and, in the case of this review, the steps followed in assessing the effectiveness of specific country MUPs. At the broader level, it is a tool for identifying and documenting successful programmes and approaches and tracking progress toward common objectives across related projects. Monitoring and evaluation were a key component of the implementation of MUPs in Scotland and the Northern Territory. In Scotland, the central objective was to provide robust and comprehensive empirical evidence of the MUP's impact, to establish whether it achieved its objective (without regard to the sunset clause), and to inform parliament's decision whether to continue with MUP after the expiration of the sunset clause (six years). Therefore, in Scotland, as part of the MUP legislation of 2012, provision was made to evaluate whether the MUP is achieving its mandate; this will affect the decision whether to continue with the policy in future or not. The Scottish Government delegated Public Health Scotland (an independent entity aimed at improving and protecting the health of all the people of Scotland) to lead the rigorous monitoring and evaluation of the policy. The Western Cape may consider adopting this model of monitoring and evaluation.

In Scotland, it was important to show that the MUP had been implemented as intended, with a high degree of policy compliance among the Scottish alcohol retailers. The Western Cape has an extensive informal, unlicensed, alcohol sector, predominantly in the townships and informal settlements. Given the unregulated nature of this informal alcohol retail sector, the Western Cape may not expect high levels of MUP compliance and enforcement seen in Scotland. Given that law enforcement and policing are often not performed to the highest standard in South Africa, increasing the number and the visibility of enforcement officers should be considered to help increase compliance rates when the MUP is implemented in the Western Cape, as this is key to the success of an MUP.

Furthermore, it is clear from an evaluation of the MUP's impact in Scotland that this was in line with the potential effect of the policy estimated prior to implementation. Experience from countries such as Scotland, and the available empirical evidence in South Africa on MUP, provide strong reasons for implementing an MUP policy but also give a model for an evaluation framework for South Africa and the Western Cape. The most helpful thing that the Western Cape can take from the Scottish experience is that the evaluations of the MUP focused on four main themes: (1) implementation of and compliance with the MUP, (2) the impact of the MUP on alcohol consumption, (3) its impact on the alcoholic drinks industry, and (4) the impact on health and social harms.

The Northern Territory in Australia also asked public health researchers and economists to conduct a formal evaluation study, which included an analysis of the impact of the MUP on wholesale alcohol supply trends

in the NT. The NT recognised that the implementation of both price and non-price interventions should be considered for the Western Cape when planning its policy.

In addition to the above, outcomes of the evaluation and monitoring systems should be made widely available to policymakers, health specialists, law enforcement officials, and others concerned with alcohol issues in a timely fashion and ideally some key data (specifically related to reductions in consumption and harms) should be presented in relevant departmental budget speeches on an annual basis by the Premier to inform provincial legislators, the media and the broader public. Furthermore, the information should be used to develop, update, or restructure policies as necessary, and to assess how they have been implemented. Reports should comment on the shortcomings, inconsistencies, and inherent difficulties with the datasets as well as their strengths and advantages.

6.3. Additional contextual factors to be considered when making the case for MUP in the Western Cape

The following points can be used to strengthen the case for MUP in the Western Cape as they provide evidence of the positive impacts of MUPs but also address concerns, such as substitution practices and cross-border sales, that may be relevant to the South African context.

6.3.1. MUP impacts on alcohol-related harms

As predicted, the country reviews show that the implementation of MUPs in Scotland, Russia, and the Northern Territory of Australia has had a more targeted impact on health than other price policies such as an alcohol excise tax. For instance, preliminary data from Scotland revealed that between 2018 and 2019, alcohol-specific deaths declined for both men and women, although this trend has been reversed from 2020 most likely due to the impact of Covid-19. Similarly, the NT found that total alcohol sales, alcohol-related assaults, protective custody episodes, alcohol-related ambulance attendances, alcohol-related road traffic crashes, the number of child protection notifications, protection orders, and out-of-home care cases declined throughout the territory as a result of the MUP policy. The one-year evaluation of the policy in the NT also found that the MUP reduced alcohol consumption and related harms by specifically targeting cheap alcoholic beverages. Whilst further evaluations of the NT policy are needed to determine its full impact, the preliminary results are strongly indicative and provide the Western Cape with a compelling example of a successful sub-regional MUP policy.

The Russian case is somewhat different since the country has implemented many alcohol-related policies over a 25-year period. During this period, various policies were sometimes relaxed, inactive, or lacking adequate enforcement, and at other times the policies were completely active and well enforced. A study that analysed the impact of alcohol policies on mortality rates in the Russian Federation from 1990 to 2018 found that periods with active policies and effective enforcement coincided with decreasing trends in mortality whilst periods of relative inactivity coincided with increasing trends in mortality. The decrease in the mortality rate since 2004 is primarily ascribed to a decrease in cardiovascular disease and other causes associated with alcohol-related harm.

An early evaluation of Botswana's presidential levy on alcohol also found that, by increasing the price of alcohol, the levy helped to decrease alcohol consumption directly after its implementation. Other than this early evaluation, there appears to be little research evidence that informed the initial implementation of the levy and subsequent revisions.

6.3.2. Changes in purchasing behaviour, strength of alcoholic beverages, and attitudes towards minimum pricing policy

The implementation of MUP changed purchasing behaviours, the strength of alcoholic beverages, and to some degree the public's attitudes towards alcohol minimum pricing policy.

In Scotland, the first evaluation of the MUP (three months after implementation) indicated a shift in the buying behaviour of drinkers. Whilst switching behaviour was limited by consumers' alcohol brand loyalty and occasion-based purchases, consumers in general moved from higher-strength to lower-strength alcohol (Stead et al., 2020). There was also a concomitant move to purchase alcoholic products in smaller containers rather than multi-packs (Stead et al., 2020). This is especially relevant for South Africa, as alcohol, especially beer and wine, tends to be sold in larger containers. A study conducted in Tshwane found that drinkers of alcoholic beverages in containers larger than one standard drink were more likely to have symptoms of alcohol problems than those consuming alcoholic beverages from containers of roughly one standard drink (Parry, Trangenstein, Lombard, Jernigan, & Morojele, 2019). Conversely, persons who drank from smaller containers were the least likely to have symptoms of alcohol problems. One of the recommendations emerging from this study was that the government should consider limiting the sale of large containers, given the increased potential of harm occurring (Parry et al., 2019).

In terms of alcohol off-sales (alcohol bought from a store for consumption at home), Scotland noted that per adult consumption declined by 8% after the MUP was implemented. The Northern Territory found that the introduction of an MUP resulted in reductions in both cask wine consumption and total wine alcohol consumption.

In Scotland, the price of high-strength ciders appeared to be most affected by the MUP policy and there was a resulting decline in sales. There was only a modest change in the price of beer, wine, and spirits, and no change in the price of ready-to-drink products and fortified-wine, as they were already priced above the MUP threshold.

Retailers in Scotland changed the way high-strength alcoholic products were promoted. Before the MUP, the most common promotion strategy for alcohol products was price marking (printing the price on the packaging of the product). Three months after the MUP implementation, there was a reduction in price marking for alcoholic drinks, especially ciders, which experienced substantial price increases as a result of the MUP. In addition, the proportion of ciders sold as single containers, instead of multipacks, increased (Stead et al., 2020).

Public support for the MUP in both Scotland and the Northern Territory increased over time. For example, in Scotland, support for the MUP increased from 41.3% in 2015 to 49.8% in 2019. The proportion of people against MUP declined from 33.4% (2013) to 27.6% (2019) (Ferguson et al., 2020).

6.3.3. Economic and business impacts

One of the alcohol industry's main contentions in Scotland was that the MUP would harm businesses, as many believed a large section of the alcohol market would be lost and that the MUP would also fuel a growing illicit alcohol trade. This claim is likely also to be made by opponents to an MUP in the Western Cape, 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.

Evidence from both Scotland and the NT suggests that MUPs did not result in job losses. Higher prices would actually result in higher profits for businesses such as supermarkets. In addition, advocates of MUP argued that since MUP is intended to curb binge and heavy drinking, its implementation would lead to

fewer absences from work. This implies a more productive labour force, which positively affects economic growth.

The possibility was also raised that an MUP might offer a windfall benefit to licensees, based on the difference between the wholesale cost of the cheap alcohol and the minimum unit price that would apply. Critics of the MUP might argue that such windfalls are undeserved and unjustified. These windfalls may not eventuate if the demand for low-quality cheap alcohol decreases when the price increases. Whether or not licensees make windfall profits is not a significant enough reason for not implementing a policy that has a proven benefit for the greater community.

Many businesses in the Northern Territory also viewed the MUP positively. Implementing the MUP was found to be straightforward. Furthermore, businesses noted that their turnover either stayed the same or improved. In the NT, the wholesale supply of alcohol to nightlife venues was unaffected (Coomber et al., 2020). In South Africa, this may be slightly different, given that nightclubs are the primary drinking location for young adults and consequently a predictor for HED. In fact, a substantial proportion of at-risk drinking takes place in nightlife environments such as bars, pubs, and nightclubs (Harker, Londani, Morojele, Petersen Williams, & Parry, 2020).

6.3.4. Curbing illicit and unrecorded alcohol

The possibility of transference from alcohol to home-made brews or illegal purchases has been raised as a concern in the South African context, as this argument is often made by the industry, and has become particularly popular during the periodic bans on alcohol sales during the COVID 19 lockdown. It also aligns closely with a similar argument, made by the tobacco industry, that links increases in the excise tax on tobacco products with an increase in the illicit trade in cigarettes.

Opponents to the MUP in the NT argued that there would be substantial transference from alcohol to other 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). The NT government noted this phenomenon, and as a measure of further control required that retail outlets place items such as methylated spirits or mouthwash "behind the counter”. However, despite the claims of the opposition, little evidence of transference between beverages targeted by the MUP and those not targeted by the MUP was found. In addition, although there were warnings that an MUP would lead to switching in Scotland, there was no evidence of switching to non-alcoholic beverages or to other

drugs, or of drinkers reducing their spending on household necessities to increase budgetary allocations for alcohol. This last argument will also be likely to come up in any debate on MUP in the Western Cape.

Russia also reported concerns about unrecorded alcohol. 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. Coinciding with the implementation of the EGAIS system in 2006 was the introduction of new excise stamps, which were harder to counterfeit and replaced the old excise stamps. 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. Also, in 2006, the government passed a law that placed minimum capital requirements on alcohol producers. This effectively drove smaller producers, many of whom contributed to the problem of unregistered alcohol production, out of the market.

6.3.5. Cross-border sales and purchases

It stands to reason that should an MUP be implemented in the Western Cape, the price of low-quality and cheap alcohol will be greater in the Western Cape than in the neighbouring provinces of the Eastern Cape and the Northern Cape. 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. Regions further away from the provincial borders would be less vulnerable, given that the cost of transporting alcohol increases with distance. The Garden Route (as part of the Western Cape) is especially exposed, because, of a high volume of taxis travelling regularly between the provinces and therefore reducing transport costs.. Given all this, cross-border sales and purchases may potentially be a problem if an MUP is implemented in the Western Cape.

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 in Scotland 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). However, there was some evidence of cross-border purchasing behaviour among individuals living within 15 km of the England border, and in particular those living near sizable English towns (Frontier Economics, 2019).

The NT had some concerns about cross-provincial trade following the implementation of an MUP. The NT is mostly a remote province, and this impacted cross-border sales. The distances that would need to be covered in search of cheaper alcohol acted as a barrier. 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 required license. Retailers situated outside the NT wishing to sell alcohol within the NT will be subjected to the same laws as licensees within the NT.

6.4. Summary

In summary, while there are limited examples globally, this review of case studies gives a good idea of what to expect during the process of implementing an MUP in the Western Cape but more importantly that evidence over time both to motivate for the MUP and to track its impact is essential to persuade public representatives as well as the public in general. It further signals the importance of tracking the effectiveness of the MUP through evidence-based measures rather than being immobilised by doubt and anecdotes (as spread by vested interests).

REFERENCES

Alcoholreform.nt.gov.au. (2021). Alcohol Policies & Legislation Reform. [online] Available at: https://alcoholreform.nt.gov.au/milestones/about-the-review/expert-advisory-panel [Accessed 21 June 2021].

Aboriginal Peak Organisations. (2017). APO NT Submission to the Northern Territory Government Review on Alcohol Policies and Legislation. [online] Available at: https://alcoholreform.nt.gov.au/__data/assets/pdf_file/0004/439978/Aboriginal-Peak-Organisations-Northern-Territory-Submission.pdf [Accessed 5 July 2021].

Adamson, E., Smith, J.A., Clifford, S., & Wallace, T. (2021). Understanding the secondary supply of alcohol as a wicked policy problem: The unique case of the Banned Drinker Register in the Northern Territory. Australian Journal of Public Administration.

Alcohol (Minimum Pricing) (Scotland) Act 2012. (2012). Available: https://www.legislation.gov.uk/asp/2012/4/section/1/enacted [Accessed 17 May 2021].

Alcohol Beverages Australia. (2021). Minimal Effort Gone into Review of Minimum Pricing. [online] Available at: https://irr.org.za/media/new-initiative-to-tackle-2018race-hustlers2019-and-the-myth-that-racism-is-a-major-problem-in-sa [Accessed 14 June 2021].

Alcoholreform.nt.gov.au. (2021). [online] Available at: https://alcoholreform.nt.gov.au/?a=485315 [Accessed 28 July 2021].

American Economic Journal: Applied Economics. 10(1):106–49.

Anderson P., Suhrke M., & Brookes C. (2012) An Overview of the market for alcoholic drinks of potentially particular appeal to minors: London: Health Action Partnership International

Anderson, P., O'Donnell, A., Kaner, E., Llopis, E. J., Manthey, J., & Rehm, J. (2021). Impact of minimum unit pricing on alcohol purchases in Scotland and Wales: controlled interrupted time series analyses. The Lancet Public Health. doi:10.1016/S2468-2667(21)00052-9
Andrienko, Y. & Nemtsov, A. (2006). Estimation of individual demand for alcohol. Center for Economic; Financial Research (CEFIR).

Angus, C., Holmes, J., Pryce,R., Meier,P., & Brennan, A. (2016). Model-based appraisal of the comparative impact of Minimum Unit Pricing and taxation policies in Scotland. An Adaptation of the Sheffield Alcohol Policy Model version 3. Sheffield: The University of Sheffield

Australian National Preventive Health Agency. (2012). Exploring the public interest case for a minimum (floor) price for alcohol. Alcohol Tobacco and Other Drug Association. Retrieved from: http://www.atoda. org.au/wp-content/uploads/ANPHA-Minimum-floor-price-for-alcoholpaper.pdf

BBC News. (2015). Minimum alcohol pricing plan ‘may breach EU law’. Available: https://www.bbc.com/news/uk-scotland-35160396 [Accessed 15 May 2021].

BBC News. (2018). Scottish Brewery sector sees explosive growth. Available: https://www.bbc.com/news/uk-scotland-scotland-business-45826450 [Accessed 10 July 2021].

Beeston, C., Robinson, M., Giles, L., Dickie, E., Ford, J., MacPherson, M., McAdams, R., Mellor, R., et al. (2020). Evaluation of Minimum Unit Pricing of Alcohol: A Mixed-Method Natural Experiment in Scotland. International Journal of Environmental Research and Public Health. 17(10):3394.

Buykx, P., Perkins, A., Hughes, J., Livingston, W., Johnston, A., McCarthy, T., Mclean, A., Wright, A., et al. (2021). Impact of Minimum Unit Pricing among people who are alcohol dependent and accessing treatment services: Interim report: Structured interview data. Edinburgh: Public Health Scotland.

Callinan, S., Room, R., Livingston, M. and Jiang, H. (2015). Who purchases low-cost alcohol in Australia?. Alcohol and Alcoholism, 50(6), pp.647-653.

Chalmers, J., Carragher, N., Davoren, S. and O'Brien, P. (2013). Real or perceived impediments to minimum pricing of alcohol in Australia: public opinion, the industry and the law. International Journal of Drug Policy, 24(6), pp.517-523.

Chikritzhs, T., Stockwell, T. and Pascal, R. (2005). The impact of the Northern Territory's Living with Alcohol Program, 1992–2002: revisiting the evaluation. Addiction, 100(11), pp.1625-1636.
Chu, K. M., Marco, J., Owalabi, E.O., Duvenage, R., Londani, M., Lombard, C., & Parry C. D. H. (2021). Trauma trends during COVID-19 alcohol prohibition at a South African regional hospital. Drug and Alcohol Review.

Clifford, S., Smith, J.A., Adamson, E. and Wallace, T. (2020). Do alcohol price control measures adequately consider the health of very remote Australians?: Minimum Unit Price in the Northern Territory. Australian and New Zealand Journal of Public Health, 44(4), pp.260-261.

Constitution of the Republic of South Africa 1996.

Coomber, L., Miller, P., Taylor, N., Livingston, M., Smith J., Buykx, P., Clifford, R., Scott, R., Clifford, S., T, Chikritzhs., Nambiar, D. and Moayeri F. (2020). Investigating the introduction of the alcohol minimum unit price in the Northern Territory. Final Report. Geelong: Deakin University.

Department of Health. (2016). UK Chief Medical Officers' Low Risk Drinking Guidelines. In. London: Department of Health.

Dickie, E., Mellor, R. & Beeston, C. (2019). Minimum unit price for alcohol evaluation research protocol: Compliance (licensing) study. Edinburgh: NHS Health Scotland.

Fergie, G., Leifeld, P., Hawkins, B. & Hilton, S. (2018). Mapping discourse coalitions in the minimum unit pricing for alcohol debate: a discourse network analysis of UK newspaper coverage. Addiction. 147, pp. 741–753.

Ferguson, K., Beeston, C. & Giles, L. (2020). Public attitudes to Minimum Unit Pricing (MUP) for alcohol in Scotland. Edinburgh: Public Health Scotland.

Ferreira-Borges, C., Parry, C., & Babor, T. (2017). Harmful Use of Alcohol: A Shadow over Sub-Saharan Africa in Need of Workable Solutions. International Journal of Environmental Research and Public Health, 14(4). doi:10.3390/ijerph14040346

Frontier Economics. (2019). Minimum Unit Pricing. Evaluating the impact on the alcoholic drinks industry in Scotland: Baseline evidence and initial impacts. Edinburgh: NHS Health Scotland

Gibbs, N., Angus, C., Dixon, S., Parry, C., Meier, P., Boachie, M. & Verguet, S. (2021). An Extended Cost-Effectiveness Analysis of Minimum Unit Pricing of Alcohol in South Africa. Helsinki, Finland.
Giles, L., Robinson, M. & Beeston, C. (2019). Minimum Unit Pricing (MUP) evaluation. Sales-based consumption: a descriptive analysis of one year post-MUP off-trade alcohol sales data. Edinburgh: NHS Health Scotland.

Giles, L., & Robinson, M. (2018). Monitoring and Evaluating Scotlands Alcohol Strategy: Monitoring Report 2018.

Gill, J., Chick, J., Black, H., Rees, C., O'May, F., Rush, R., & McPake, B. A. (2015). Alcohol purchasing by ill heavy drinkers; cheap alcohol is no single commodity. Public Health, 129(12), 1571-1578. doi:https://doi.org/10.1016/j.puhe.2015.08.013

Godden, D. and Allen, E.L., 2017. The development of modern revenue controls on alcoholic beverages. World Customs Journal, 11(2), pp.3-22.

Harker Burnhams, N., Parry, C., Laubscher, R & London, L (2014). Prevalence and predictors of problematic alcohol use, risky sexual practices and other negative consequences associated with alcohol use among safety and security employees in the Western Cape, South Africa. Substance Abuse Treat Prevention Policy 9: 14.

Harker, N., Londani, M., Morojele, N., Petersen Williams, P., & Parry, C. D. (2020). Characteristics and Predictors of Heavy Episodic Drinking (HED) among Young People Aged 16-25: The International Alcohol Control Study (IAC), Tshwane, South Africa. International Journal of Environmental Research and Public Health, 17(10). doi:10.3390/ijerph17103537

Hawkins, B. & McCambridge, J. (2020). 'Tied up in a legal mess': The Alcohol Industry's Use of Litigation to Oppose Minimum Alcohol Pricing in Scotland. Scottish Affairs, 29(1), pp. 3–23.

Herrick, C., 2016. Global health, geographical contingency, and contingent geographies. Annals of the American Association of Geographers, 106(3), pp.672-687.

Hilton, S., Wood, K., Patterson, C. & Katikireddi, S.V. (2014). Implications for alcohol minimum pricing advocacy: What can we learn for public health from UK newsprint coverage of key claim-makers in the policy debate? Social Science & Medicine, 102, pp. 157–164.

Holmes, J. (2018). Minimum pricing for alcohol: Evidence, uncertainties and the UK experience. Auckland, New Zealand.
Holmes, J., Meier, P.S., Angus, C. & Brennan, A. (2018). Scotland's policy on minimum unit pricing for alcohol: the legal barriers are gone, so what are the implications for implementation and evaluation? Addiction, 113, pp. 203–204.

Info.australia.gov.au. (2021). State and territory government | australia.gov.au. [online] Available at: https://info.australia.gov.au/about-government/how-government-works/state-and-territory-government> [Accessed 3 July 2021].

Jargin, S.V. (2010). Letter from Russia: Minimal price for vodka established in Russia from 1 January 2010. Alcohol and Alcoholism, 45(6), pp. 586–588.

Katikireddi, S.V. & Hilton, S. (2015). How did policy actors use mass media to influence the Scottish alcohol minimum unit pricing debate? Comparative analysis of newspapers, evidence submissions and interviews. Drugs Education Prevention Policy, 22(2), pp. 125–134.

Katikireddi, S.V., Bond, L. & Hilton, S. (2013). Perspectives on econometric modelling to inform policy: a UK qualitative case study of minimum unit pricing of alcohol. European Journal of Public Health, 24(3), pp. 490–495.

Katikireddi, S.V., Bond, L. & Hilton, S. (2014). Changing Policy Framing as a Deliberate Strategy for Public Health Advocacy: A Qualitative Policy Case Study of Minimum Unit Pricing of Alcohol. The Milbank Quarterly, 92(2), pp. 250–283.

Katikireddi, S.V., Hilton, S. & Bond, L. (2016). The role of the Sheffield Model on the minimum unit pricing of alcohol debate: the importance of rhetorical perspective. Evidence Policy, 12(4), pp. 521–539.

Katikireddi, S.V., Hilton, S., Bonell, C. & Bond, L. (2014). Understanding the Development of Minimum Unit Pricing of Alcohol in Scotland: A Qualitative Study of the Policy Process. PLOS ONE, 9(3).

Khaltourina, D. & Korotayev, A. (2015). Effects of specific alcohol control policy measures on alcohol-related mortality in Russia from 1998 to 2013. Alcohol and Alcoholism, 50(5), pp. 588–601.
Lenta.ru.

Liquor Act 2019.
London, L. (1999). The `dop' system, alcohol abuse and social control amongst farm workers in South Africa: a public health challenge. Social Science & Medicine, 48(10), pp. 1407-1414. doi:https://doi.org/10.1016/S0277-9536(98)00445-6

Loxley, W., Gilmore, W., Catalano, P., & Chikritzhs, T. (2016). National Alcohol Sales Data Project (NASDP) Stage Five Report.

Lucas, L. (2021). BBC NEWS | World | Africa | Botswana in a froth over beer. [online] News.bbc.co.uk. Available at: http://news.bbc.co.uk/2/hi/africa/7522157.stm [Accessed 19 July 2021].
Macro-Advisory.

Matzopoulos, R., Cois, A., Probst, C., Parry, C. D., Vellios, N., Sorsdahl, K., Joubert, J., Pacella, R. (2021). Estimating the Burden of Disease from Alcohol Use in South Africa in 2000, 2006, 2012. Available at SSRN 3854745.

Matzopoulos, R. G., Truen, S., Bowman, B., & Corrigall, J. (2014). The cost of harmful alcohol use in South Africa. South African Medical Journal, 104(2), pp. 127-132. doi:10.7196/samj.7644

McCambridge, J., Hawkins, B., & Holden, C. (2013). The challenge corporate lobbying poses to reducing society's alcohol problems: insights from UK evidence on minimum unit pricing. Addiction, 109, pp. 199–205.

McCartney, G., Bouttell, J., Craig, N., Craig, P., Graham, L., Lakha, F., Lewsey, J., McAdams, R., MacPerson, M., Minton, J. (2016). Explaining trends in alcohol-related harms in Scotland 1991–2011 (II): policy, social norms, the alcohol market, clinical changes and a synthesis. Public Health, 132, 24-32.

Meier, P., Brennan, A., Angus, C., & Holmes, J. (2017). Minimum unit pricing for alcohol clears final hurdle in Scotland. BMJ, 359, 5372.

Molamu, L. (1989). Alcohol in Botswana: a historical overview. Contemporary Drug Probs, 16, p.3.

Morojele, N.K, Dumbili, E.W., Obot, I.S., & Parry, C.D.H. (2021). Alcohol consumption, harms and policy developments in sub-Saharan Africa: the case for stronger national and regional responses. Drug & Alcohol Review, 40, 002-419. DOI: 10.1111/dar.13247

National Department of Health (NDoH), Statistics South Africa (Stats SA), Research, S. A. M., Council (SAMRC), & ICF. (2019). South Africa Demographic and Health Survey 2016. Retrieved from Pretoria South Africa, Rockville Maryland USA.

National Records of Scotland. (2021). Alcohol-specific deaths in Scotland increase. Retrieved from https://www.nrscotland.gov.uk/node/3596

Navsaria, P. H., Nicol, A. J., Parry, C. D. H., Matzopoulos, R., Maqungo, S., & Gaudin, R. (2020). The effect of lockdown on intentional and nonintentional injury during the COVID-19 pandemic in Cape Town, South Africa: A preliminary report. South African Medical Journal, 0(0), 13183.

Neufeld, M. & Rehm, J. 2013. Alcohol Consumption and Mortality in Russia since 2000: Are there any Changes Following the Alcohol Policy Changes Starting in 2006?. *Alcohol and Alcoholism*, 48(2), pp. 222–230.

Neufeld, M. & Rehm, J. 2018. Effectiveness of policy changes to reduce harm from unrecorded alcohol in Russia between 2005 and now. International Journal on Drugs and Policy, 51, pp. 1-9.

Neufeld, M., Ferreira-Borges, C., Gil, A., Manthey, J. & Rehm, J. 2020. Alcohol policy has saved lives in the Russian federation. The International Journal on Drug Policy, 80:102636.

NHS Health Scotland. (2021). Outcome areas and studies of evaluation of MUP. Retrieved from http://www.healthscotland.scot/health-topics/alcohol/evaluation-of-minimum-unit-pricing-mup/outcome-areas-and-studies-of-evaluation-of-mup.

NHS Health Scotland. (2020). Briefing: The impact of MUP on children and young people's own drinking and related behaviour. Edinburgh: NHS Health Scotland.

O'Donnell, A., Anderson, P., Jane-Llopis, E., Manthey, J., Kaner, E., & Rehm, J. (2019). Immediate impact of minimum unit pricing on alcohol purchases in Scotland: controlled interrupted time series analysis for 2015-2018. BMJ, 366:15274

OECD. (2021). Preventing Harmful Alcohol Use. OECD Health Policy Studies. Paris: OECD Publishing.

Parry, C. & Voetsch, K. (2012). Evaluation of the Alcohol Levy in Botswana. Report prepared for the Ministry of Health, Botswana.

Parry, C. D. H., Trangenstein, P., Lombard, C., Jernigan, D. H., & Morojele, N. (2019). Identifying Alcohol Problems and Selected Individual and Contextual Risk Factors Among Adults in South Africa: Findings from the International Alcohol Control Study. International Journal of Mental Health and Addiction, 17(1), 56-72. doi:10.1007/s11469-017-9865-5

Parry, C.D., Londani, M., Shuper, P.A., Myers, B., Kekwaletswe, C.T., Nkosi, S. and Morojele, N.K. (2019). Characteristics and drinking behaviour of patients on antiretroviral therapy who drink and attend HIV clinics in Tshwane, South Africa: Implications for intervention. South African Medical Journal, 109(10), pp.784-791.

Patterson, C., Katikireddi, S.V., Wood, K. & Hilton, S. (2014). Representations of minimum unit pricing for alcohol in UK newspapers: a case study of a public health policy debate. Journal of Public Health, 37(1):40–49.

Probst C., Parry. C. D. H,. Wittchen, H. U., & Rehm J. (2018). The socioeconomic profile of alcohol-attributable mortality in South Africa: a modelling study. BMC Med, 16(1), 97. doi:10.1186/s12916-018-1080-0

Probst, C., Simbayi, L. C., Parry, C. D. H., Shuper, P. A., & Rehm J. (2017). Alcohol Use, Socioeconomic Status and Risk of HIV Infections. AIDS and Behavior, 21(7), 1926-1937. doi:10.1007/s10461-017-1758-x

Public Health Scotland. (2020). Evaluating the impact of minimum unit pricing (MUP) on sales-based alcohol consumption in Scotland: Controlled interrupted time series analyses. Retrieved from Scotland: http://www.healthscotland.scot/publications/evaluating-the-impact-of-minimum-unit-pricing-mup-on-sales-based-alcohol-consumption-in-scotland-controlled-interrupted-time-series-analyses

Public Health Scotland. (2021). Overview of evaluation of MUP. Available: http://www.healthscotland.scot/health-topics/alcohol/evaluation-of-minimum-unit-pricing-mup/overview-of-evaluation-of-mup/why-we-are-evaluating-mup [Accessed 15 May 2021].

Radaev, V. (2015). Impact of a new alcohol policy on homemade alcohol consumption and sales in Russia. Alcohol and Alcoholism, 50(3), pp. 365–372.

Rehm, J., & Parry, C. (2009). Alcohol consumption and infectious diseases in South Africa. Lancet, 374(9707), 2053. doi:10.1016/S0140-6736(09)62150-4

Rehm, J., Mathers, C., Popova, S., Thavorncharoensap, M., Teerawattananon, Y., & Patra, J. (2009). Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders. Lancet, 373(9682), 2223-2233. doi:10.1016/s0140-6736(09)60746-7

Reuter, H., Jenkins, L. D., De Jong, M., Reid, S., & Vonk, M. (2020). Prohibiting alcohol sales during the coronavirus disease 2019 pandemic has positive effects on health services in South Africa. African Journal of Primary Health Care & Family Medicine 12(1).

Riley, T., Angus, P., Stedman, D. and Mathews, R. (2017a). Alcohol Policies and Legislation Review: Issues Brief. Available at: https://digitallibrary.health.nt.gov.au/prodjspui/bitstream/10137/1281/1/Northern%20Territory%20Alcohol%20Policies%20and%20Legislation%20Review%20-%20Issues%20Paper.pdf [Accessed 21 June 2021].

Riley, T., Angus, P., Stedman, D. and Mathews, R. (2017b). Alcohol Policies and Legislation Review: Final report. Available at: https://alcoholreform.nt.gov.au/__data/assets/pdf_file/0005/453497/Alcohol-Policies-and-Legislation-Review-Final-Report.pdf [Accessed 21 June 2021].

Robinson, M., Mackay, D., Giles, L., Lewsey, J., Richardson, E. & Beeston, C. (2021). Evaluating the impact of minimum unit pricing (MUP) on off-trade alcohol sales in Scotland: an interrupted time-series study. Addiction.

Schneider, M., Norman, R., Parry, C., Bradshaw, D., Pluddemann, A., & South African Comparative Risk Assessment Collaborating, G. (2007). Estimating the burden of disease attributable to alcohol use in South Africa in 2000. South African Medical Journal, 97(8 Pt 2), 664-672.

Scotland Census. 2021. Population. Available: https://www.scotlandscensus.gov.uk/census-results/at-a-glance/population/.

Sebeelo, T.B. (2020). Beer drinking, resistance and the politics of alcohol tax levy in Botswana. Nordic Studies on Alcohol and Drugs, 37(6), pp.544-556.

Sebeelo, T.B. (2021). “Undisciplined” drinking, multi-sectoralism and political power: Examining problematisations in the Botswana alcohol policy. International Journal of Drug Policy, 94, pp .103228.

Shield, K.D., & Rehm, J. (2015). Russia-specific relative risks and their effects on the estimated alcohol-attributable burden of disease. BMC Public Health. 15(1), pp. 1–10.
Shkolnikov, V.M., Andreev, E.M., McKee, M., & Leon, D.A. (2013). Components and possible determinants of the decrease in Russian mortality in 2004-2010. Demographic research, 28, pp. 917– 950.

Statistics South Africa. (2018). Provincial Profile: Western Cape Community Survey 2016. Pretoria: Statistics South Africa.

Stead, M., Critchlow, N., Eadie, D., Fitzgerald, N., Angus, K., Purves, R., McKell, J., MacKintosh, A.M., et al. (2020). Evaluating the impact of Minimum Unit Pricing (MUP) in Scotland: Observation study of small retailers. The University of Stirling and the University of Sheffield.

Suggs, D.N. (1996). Mosadi Tshwene: the construction of gender and the consumption of alcohol in Botswana. American Ethnologist, 23(3), pp.597-610.

Symons, M., Gray, D., Chikritzhs, T., Skov, S., Saggers, S., Boffa, J., & Low, J. (2012). A longitudinal study of influences on alcohol consumption and related harm in Central Australia: with a particular emphasis on the role of price. National Drug Research Institute.

Taylor, N., Miller, P., Coomber, K., Livingston, M., Scott, D., Buykx, P., & Chikritzhs, T. (2021). The impact of a minimum unit price on wholesale alcohol supply trends in the Northern Territory, Australia. Australian and New Zealand Journal of Public Health, 45(1), pp.26-33.

The Foundation for Alcohol Research and Education. (2017). The Price is Right: Setting a Minimum Unit Price on Alcohol in the Northern Territory. [online] Canberra: FARE. Available at: https://fare.org.au/wp-content/uploads/The-Price-is-Right-NT-FINAL.pdf [Accessed 21 June 2021].

The Scottish Government. (2009). Changing Scotland’s Relationship with Alcohol: A Frame Work for Action. Edinburgh: Scottish Government.

The Scottish Government. (2018). Guidance on the implementation of Minimum Pricing for Alcohol: For sellers of alcohol and enforcement authorities in Scotland. Edinburgh: Scottish Government.

Treisman, D. (2010). Death and prices: The political economy of Russia's alcohol crisis. Economics of transition, 18(2), pp. 281–331.

Van der Zee, K., & Van Walbeek, C. (2019). Botswana, Lesotho, and South Africa: An Analysis of Alcohol and Cigarette Prices in Maseru, Gaborone, and Neighboring South African Towns. . In Confronting Illicit Tobacco Trade: a Global Review of Country Experiences (pp. 550-579). Washington, D.C.: World Bank.

van Walbeek C., & Blecher, E. A. o. f. (2016). The economics of alcohol use, misuse and policy in South Africa. South African Medical Journal. Retrieved from http://www.tobaccoecon.uct.ac.za/sites/default/files/image_tool/images/405/People/the-economics-of-alcohol-policy-in-south-africa.pdf

van Walbeek, C,. & Chelwa, G. (2019). Using price-based interventions to reduce abusive drinking in the Western Cape Province. Cape Town: DG Murray Trust.

van Walbeek, C., & Chelwa, G. (2021). The case for the Minimum Unit Price in South Africa. South African Medical Journal, 111(7), pp. 680-684

Vos, T., Lim, S. S., Abbafati, C., Abbas, K. M., Abbasi, M., Abbasifard, M., . . . Murray, C. J. L. (2020). Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. The Lancet, 396(10258), 1204-1222. doi:10.1016/S0140-6736(20)30925-9

Wagenaar, A. C., Salois, M. J., & Komro, K. A. (2009). Effects of beverage alcohol price and tax levels on drinking: a meta-analysis of 1003 estimates from 112 studies. Addiction, 104(2), pp. 179-190. doi:10.1111/j.1360-0443.2008.02438.x

Strategic Framework for the Provincial Strategic Plan 2019- 2024. https://www.westerncape.gov.za/text/2019/December/draft_strategic_framework_for_psp_2019-2024_dec_2019_1.pdf

Wilson, A., Stearne, A., Gray, D., & Saggers, S. (2010). The harmful use of alcohol amongst Indigenous Australians. Australian Indigenous HealthInfoNet.

World Health Organization. (2014). European status report on alcohol and health 2014 Pricing policies. Retrieved from European Regional Office

World Health Organization. (2003, 2005). WHO FRAMEWORK CONVENTION ON TOBACCO CONTROL. Retrieved from https://www.who.int/tobacco/framework/WHO_FCTC_english.pdf

World Health Organization. (2018). Global status report on alcohol and health. Retrieved from https://www.who.int/substance_abuse/publications/global_alcohol_report/en/

World Health Organization. (2019). Alcohol policy impact case study: The effects of alcohol control measures on mortality and life expectancy in the Russian federation. Copenhagen: WHO Regional Office for Europe

World Health Organization. (2020). Alcohol pricing in the WHO European Region. Update report on the evidence and recommended policy actions. Denmark: WHO regional office for Europe.

Yakovlev, E. (2018). Demand for alcohol consumption in Russia and its implication for mortality. American Economic Journal: Applied Economics, 10(1), pp. 106-149.