Evaluating the economic, health and social impacts of the proposed Liquor Amendment Bill, 2017

REPORT PREPARED FOR NEDLAC BY GENESIS ANALYTICS

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Final Report

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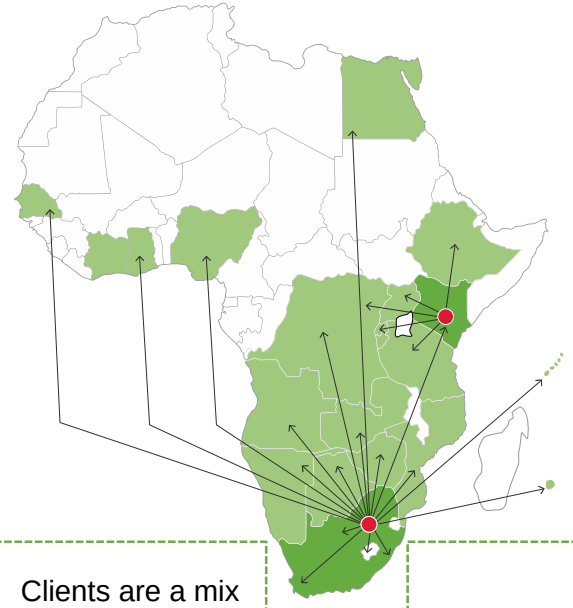
G:ENESIS
UNLOCKING VALUE

INTRODUCTION TO GENESIS ANALYTICS

The largest economics-based consulting firm in Africa

100 consultants in Johannesburg and Nairobi



Advisory services in competition economics; development economics; behavioural economics; management consulting; public health; regulation; and socio-economic impact assessment

Clients are a mix of companies, governments, regulators and the international aid community

Reputation for rigour, ethics and independence

We have drawn on the following company expertise for this research:

Complex research projects in multi-stakeholder settings

Economic impact assessment

Public health

Cost/ benefit analysis & CGE- modelling

Some of our clients

EXECUTIVE SUMMARY
Impact of proposed change in legal drinking age + advertising restrictions

PUBLIC HEALTH AND SOCIAL IMPACT

1 Reduced Alcohol Consumption Estimates

- We estimate that the two policy changes **combined** will **reduce** alcohol consumption by **3.2% - 7.4%.**

2 This equates to reduced consumption of alcohol by:

- **84,00 – 194,000** South Africans 15-20 years in years 1 - 2
- **500,000 – 1.2 million** South Africans 15+ years after five years

3 Impact on Alcohol-attributable Traffic Fatalities

- **185 lives saved** per year due to a **3% reduction** in alcohol-attributable traffic fatalities

NB: difficult to translate percentage decrease in consumption into number of drinkers or specific harm reduction as the distribution of the reduction is not computable i.e.) who exactly will decrease their consumption and by how much.

ECONOMIC IMPACT

ECONOMY-WIDE IMPACT

Low Impact Scenario 2025

GDP: **0.006% off baseline**

Tax: **0.026% off baseline**

Employment: **negligible**

High Impact Scenario 2025

GDP: **0.006% off baseline**

Tax: **0.033% off baseline**

Employment: **0.016% (500 jobs off baseline)**

- First, a business-as-usual baseline scenario that excludes the policy change under investigation is modelled to 2025
- Then two impact scenarios are modelled based on estimates of consumption change.
- **Low impact scenario – alcohol volumes fall by 3.2%**
- **High impact scenario – alcohol volumes fall by 7.4%.**

ALCOHOL INDUSTRY

Low Impact Scenario 2025

Output : **0.9%**
Tax: **0.15%**
Employment: **0.62%**
645 jobs off baseline

High Impact Scenario 2025

Output: **2%**
Tax: **0.58%**
Employment: **1.48%**
1,533 jobs off baseline

Qualitative impacts

- ***Higher barriers to entry for small companies; less competition in the alcohol industry***
- ***Reduced consumer choice***

PUBLIC SECTOR CONSIDERATIONS

Alcohol-related harm accounts for 0.5% - 1.3% of GDP (R20 billion - R52 billion a year). Alcohol-related health costs are 5% of total public health spending

Cost of compliance and enforcement plan – not yet quantified

SABC is commercially insolvent

Policy changes likely to decrease public costs; difficult to quantify

Possible reduction in public health costs of R0.7bn (low scenario) to R1.9bn (high) (estimate)

ADVERTISING / MEDIA INDUSTRY

Advertising revenue: R400 million (1%)
Media revenue: R800 million
Shift in advertising dynamics
ATL → BTL & Digital
Biggest losers are SABC, etc and Multichoice; Biggest winners BTL and digital media agencies; integrated agencies
Advertising and media jobs: 688

Modelled
Researched
Treat with caution

ECONOMIC IMPACTS | SUMMARY

METHODOLOGY

- For economy-wide impact and alcohol sector impact, a Computable General Equilibrium model is used.
- For advertising and media sector impact, industry research is used.

ECONOMY-WIDE IMPACT

- First, a business-as-usual baseline scenario is modelled to 2025 that excludes the policy changes.
- The best estimate for the combined effect of change in legal drinking age (LDA) from 18 to 21 and advertising restrictions as proposed, is a reduction in the overall consumption of alcohol volumes by 3.2% to 7.4%.
- These values are modelled as two scenarios: 1) low impact (alcohol consumption falls by 3.2%); 2) high impact (alcohol consumption falls by 7.4%).
- In the low impact scenario the economy-wide impact is negligible. In the high-impact scenario we expect small economy-wide losses (500 jobs relative to the baseline scenario by 2025).

ALCOHOL INDUSTRY

- The impact on the alcohol industry is small over the medium term. By 2025, the alcohol industry could have 625 fewer jobs relative to the baseline projections in the low impact scenario, and potentially 1,533 fewer jobs relative to the baseline, in the high impact scenario. (In 2016, the industry directly employed 41,177 people).
- More pertinent is a negative impact on competition in the alcohol industry. As large alcohol companies move above-the-line (ATL) advertising spending to below-the-line (BTL) and digital channels, smaller alcohol companies will be crowded out, especially at point of sale as the price of promotional floor space and shelf space increases. This will raise barriers of entry for new entrants. SMEs and smaller alcohol companies will find it harder to break into the established market or introduce new brands. Advertising restrictions will thus have the effect of calcifying the incumbent market share of dominant companies.
- A second qualitative impact will be reduction in consumer choice.

ECONOMIC IMPACTS | SUMMARY

ADVERTISING AND MEDIA

- The impacts on the advertising and media industry are more immediate than on the alcohol industry.
- The impact of advertising restrictions will be a loss of about R800m of revenue to ATL advertising (about 2% of total advertising revenue p.a) though about 50% of this will be recovered by the industry shifting skills to BTL and digital media for alcohol advertising. Thus the advertising industry as a whole loses net revenue of about R400m (1% of 2016 ATL revenues).
- The impact on the media corporations is a loss of roughly R800million in ATL revenue, mostly from loss of television advertising. The biggest losers of media revenue are the SABC, etv, and Multichoice.
- About 688 jobs may be lost in advertising and media industries combined.

ADDITIONAL COST NOT QUANTIFIED

- Cost of enforcement plans by the state.
- Cost of private sector compliance with LDA.

HEALTH AND SOCIAL IMPACTS: SUMMARY

LIKELY IMPACT OF LDA AND ADVERTISING RESTRICTION

- To estimate the likely impact of the LDA and advertising restrictions on consumption volumes, we have drawn from the information gathered using **seven different methods** in each LDA and advertising.
- We estimate that the combined impact of LDA and advertising in South Africa will be **a 3.2% - 7.4%** reduction in alcohol consumption (total volumes) among drinkers aged 15+.

EFFECT ON CONSUMPTION

- It is difficult to translate reduction in total volumes into affected drinkers, or to specific harms reduced, as the distribution of the reduced total volumes cannot be predicted i.e.. exactly who will decrease their consumption and by how much.
    - However based on the literature we suggest the decrease is likely to be **highest in younger people and in heavy drinkers**.
    - We estimate that 84,000 – 194,000 people (15-20) are likely to reduce alcohol consumption in years 1-2
    - From year 5, we estimate that 500,000 – 1.2 million people 15+ are likely to reduce alcohol consumption.
    - We estimate that 290,000 hazardous drinkers are likely to reduce their consumption.

HEALTH IMPACT

- We estimate that **185 lives will be saved a year** due to a 3% reduction in alcohol-related road traffic fatalities.
- We are unable to quantify the impact on social outcomes associated with alcohol like transmission of HIV, crime, violence and gender-based violence but we expect a similarly proportioned reduction in incidence.

PUBLIC HEALTH COSTS

- It is difficult to translate percentage reduction in total volumes into specific public health savings as the distribution of the reduction cannot be predicted.
- However, the policy changes are likely to reduce public health costs.
- A conservative estimate would be reduction in public health costs of R0.7bn (low scenario) to R1.9bn (high scenario).

Parts of report

- **A** Status quo
- **B** Proposals and likely outcome
- **C** Impact assessment
- **D** Alternatives

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BACKGROUND

- Most South Africans do not drink alcohol - only 44% of the adult (15+) population has ever had an alcoholic drink, and only 23% are current drinkers. Yet South Africa's consumption per capita is extremely high by international standards. The inference is that those who do drink, drink in excess. Heavy episodic drink (binge drinking) is typical. There are also high levels of youth drinking: a concerning 12% of children have initiated alcohol use before the age of 13, while nearly half of those aged 13-19 have tried alcohol, and a quarter engage in binge drinking.
- On the positive side, alcohol provides an important social and leisure benefit for many responsible citizens who drink in moderation without creating harm for themselves or for anyone else. Importantly, the rights of these citizens should not be impacted punitively by the intended or unintended consequences of regulation.
- Moreover, the alcohol industry supports a large value chain which includes agriculture, manufacturing, distribution and retail sectors. It is estimated that in 2016, 41,177 people are employed in the alcohol industry directly, with another 203 156 jobs supported by the linkages of the alcohol industry in the wider economy. The alcohol sector and taxes on alcoholic drinks are also significant contributors to the fiscus, and the sale of alcohol is an important income-generator for emerging entrepreneurs and poorer households, especially women. In addition, the marketing of alcohol constitutes about 5% of revenues for the advertising industry and media industry .
- On the negative side, there is almost universal consensus by stakeholders, including industry, that South Africa has a problem with hazardous drinking. When compared to international benchmarks it is clear that our drinking habits are problematic especially levels of heavy episodic drinking and youth drinking. There is also a large informal sector (unlicensed shebeens and informal drinking establishments) that is not well understood or policed, where significant levels of hazardous and youth drinking occurs.
- Harmful levels of drinking create many costs for the country. Excessive alcohol intake is associated with negative public health outcomes, including the occurrence of liver cirrhosis; foetal alcohol syndrome – in which South Africa has an incidence 14 times the world average - depression; addiction; and the spread of communicable diseases like tuberculosis and HIV. Socio-economic costs include alcohol related injuries and fatalities – especially in traffic accidents – risker sexual behaviour; crime; violence, especially violence against women, and absenteeism.
- **Considering these considerable public harms, government has a legitimate mandate to set policy to reduce the harmful effects of alcohol**. The Department of Trade and Industry (dti), supported by the Department of Health (DoH) and in line with the National Liquor Policy, 2015 has proposed amendments to the National Liquor Act, 2003, the most notable being,
    - Restrictions on the advertising of alcohol (s9);
    - A change in legal drinking age (LDA) from 18 to 21 (s10);
    - Vicarious liability for manufacturers, distributors and retailers of alcohol (s34A); and
    - Changes to the licensing requirements in respect of B-BBEE (s13).
- These four amendments are significant and will have an impact on economic, social, health and other public policy interests.
- The amendments are generally contested between those who prioritise public health, social, children and familial issues and those who favour economic growth, consumer choice and libertarianism.
- The issue is polarising and emotional and has near universal resonance - almost every citizen has a strong view on alcohol, whether positive or negative.

PURPOSE OF THE STUDY

- The National Economic and Development Labour Council (NEDLAC) determined that the debates and passage of the amendments would be well informed by an independent study on the likely impact of the proposed amendments.
- Genesis Analytics was commissioned by NEDLAC to conduct an urgent study.
- The purpose of this study is threefold:
  1. To establish the fact-base of the status quo;
  2. To provide a quantitative and qualitative estimate of impact of selected proposals on the economy, health and society;
  3. To explain intended and unintended consequences in more detail.
- This will establish an evidence base to inform further debates between the social partners and also in the parliamentary processes.
- The study is commissioned by NEDLAC and is funded by the South African Liquor Brands Association (SALBA).
- The consultants report to NEDLAC. Genesis Analytics confirms that SALBA, as funder, has not sought to influence the study apart from connecting the consultants to stakeholders and providing publicly available documents.

SCOPE

The study considers the impact of four proposals:

- Restrictions on the advertising of alcohol (s9);
- A change in LDA from 18 to 21 (s10);
- Changes to the licensing requirements in respect B-BBEE (s13); and
- Extended liability for manufacturers, distributors and retailers of alcohol (s34A).

If other issues require analysis, for instance the proposed zoning amendments, they will be considered in a further research phase but this has not yet been scoped.

MAINTAINING RESEARCH OBJECTIVITY

- Every researcher and analyst brings a degree of personal bias to a research topic, and alcohol is a topic that evokes strong reactions.

Genesis, being aware of the contentious nature of alcohol, has made the following efforts to remain objective:

1. Involvement of a mixed team of researchers from business consulting, economics and public health practices;
2. Giving equal consideration to consultations with public health officials and activists; and the alcohol and advertising industries;
3. Using international comparisons wherever possible;
4. Using more than one source of data wherever possible in order to triangulate research;
5. Noting where information is missing that is important to the analysis;
6. Being at heart an independent consultancy that works without compromise for governments, regulators, the private sector and the international aid community;

ABBREVIATIONS

ATL	Above-the-line advertising
AAF	Alcohol attributable fraction
ARA	Industry Association for Responsible Alcohol Use
ARVs	Anti-retrovirals
ASA	Advertising Authority of South Africa
AUDIT	Alcohol Use Disorders Identification Test
BAC	Blood alcohol content
BAU	Business-As-Usual
B-BBEE	Broad-based Black Economic Empowerment
BCCSA	Broadcasting Complaints Commission of South Africa
BTL	Below-the-line advertising
CAGE test	Cutting down, Annoyance at criticism, Guilty feelings and use of Eye-openers
CCRD	Consumer and Coporate Regulation Division
CES	Constant elasticity of substitution
CGE	Computable General Equilibrium
CoPS	Centre of Policy Studies
DALY	Disability-adjusted life years
DoH	Department of Health
DTI	Department of Trade and Industry
ELSA	Enforcement of national Laws and Self-regulation on advertising and marketing of Alcohol
FABs	Flavoured alcoholic beverages
FAS	Foetal Alcohol Syndrome
FMCG	Fast moving consumable goods
GAPA	Global Alcohol Policy Alliance
GDP	Gross Domestic Product
GBV	Gender-based violence
GVA	Gross added value
ITS	Interrupted Time Series
IWSR	International Wines and Spirits Record
LDA	Legal drinking age
MOU	Memorandum of understanding
MRC	Medical Research Council
NEDLAC	National Economic Development and Labour Council
NCD	Non-communicable disease
NLA	National Liquor Authority
NPO	Non-profit organisation
OR	Odds Ratio
PLA	Provincial Liquor Authorities
QES	Quarterly Employment Statistics
QLFS	Quarterly Labour Force Statistics
RBS	Responsible bar services
RCT	Randomised Controlled Trial
RR	Relative Risk
RTDs	Ready-to-drinks
SAAPA	Southern Africa Alcohol Policy Alliance
SADC	Southern African Development Community
SADHS	South African Demographic and Health Survey
SALBA	South African Liquor Brands Association
SAPS	South African Police Service
SARS	South African Revenue Service
SIC	Standard Industrial Classification
SNA	System of National Accounts
SSA	Statistics South Africa
ST	Supply table
STAT SA	Statistics South Africa
STI	Sexually transmitted infection
SUT	Supply and use table
TB	Tuberculosis
TIPS	Trade and Industry Policy Strategies
UPGEM	University of Pretoria General Equilibrium Model
UT	Use table
VAT	Value added tax
WCLA	Western Cape Liquor Authority
WHO	World Health Organization
WISPI	World Internal Security Policy Index
YRBS	Youth Risk Behaviour Survey

CAVEATS

The study was requested by NEDLAC on as an urgent report to be delivered within six weeks. As a result some research that would be useful could not be included:

- Modelling of the relationship between volumes v ATL spending (not included);
- Consideration of the zoning clause;
- An assessment of work absenteeism and dismissal due to alcohol abuse.

HIGH INTEGRITY OF RESEARCH AND FINDINGS

The following colour code is used in the report to indicate methodology and integrity of findings:

YELLOW DOTTED BOX
– modelled results: using CGE model, or Supply/Use Tables; high integrity

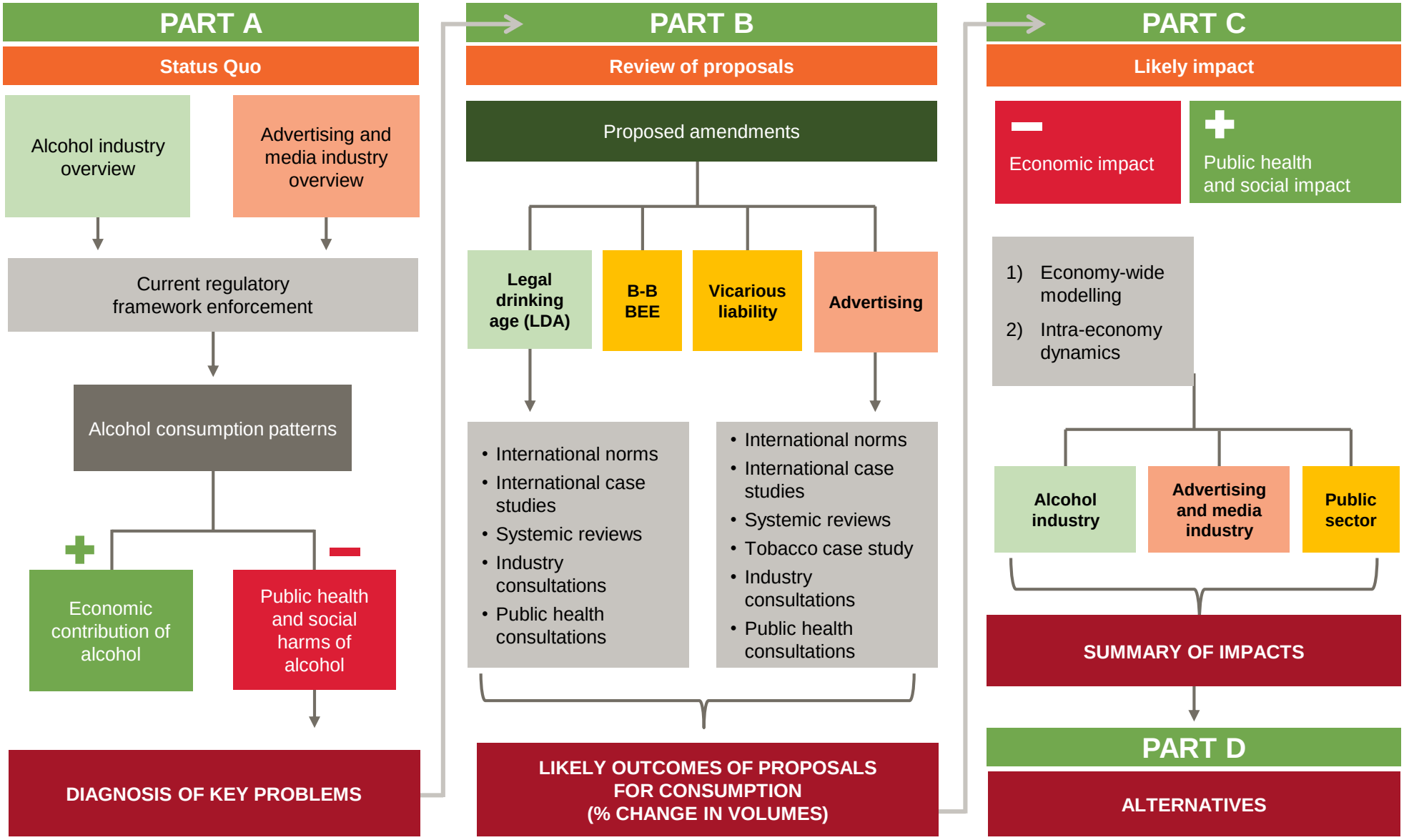
BLUE DOTTED BOX
– researched results: using literature review, case studies, consultations; high integrity

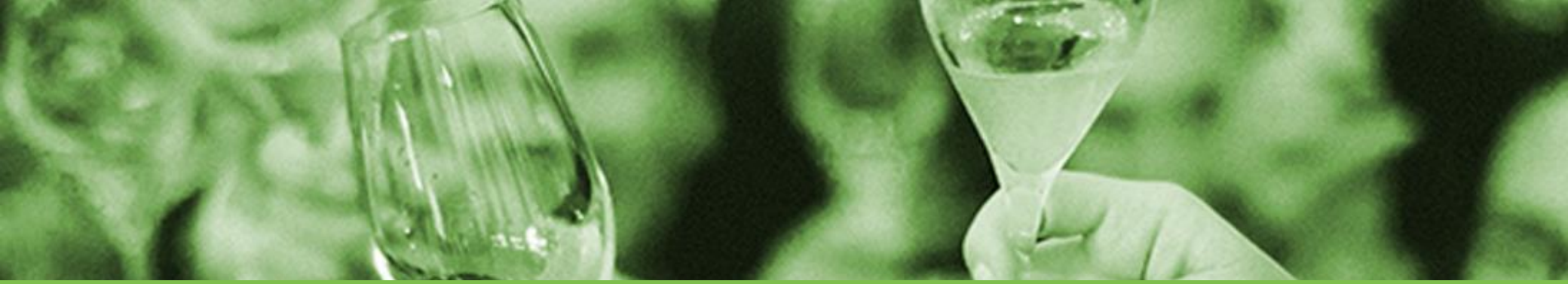
This means: worth noting

WOULD BENEFIT FROM MORE RESEARCH

ORANGE DOTTED BOX
– limited data available, assumptions used; test results with caution

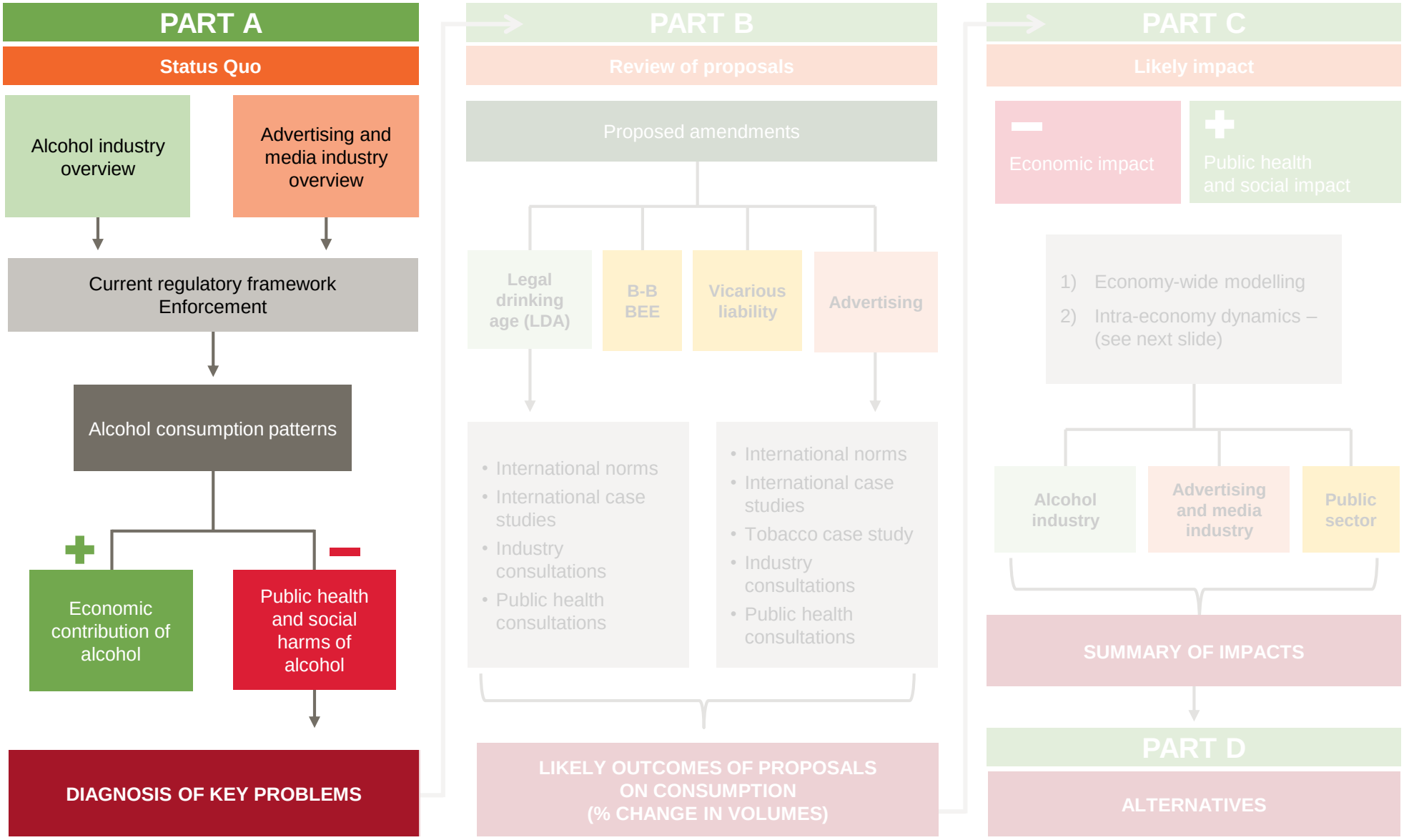
CONCEPTUAL APPROACH TO THE STUDY





PART A Status quo

CONCEPTUAL APPROACH TO THE STUDY



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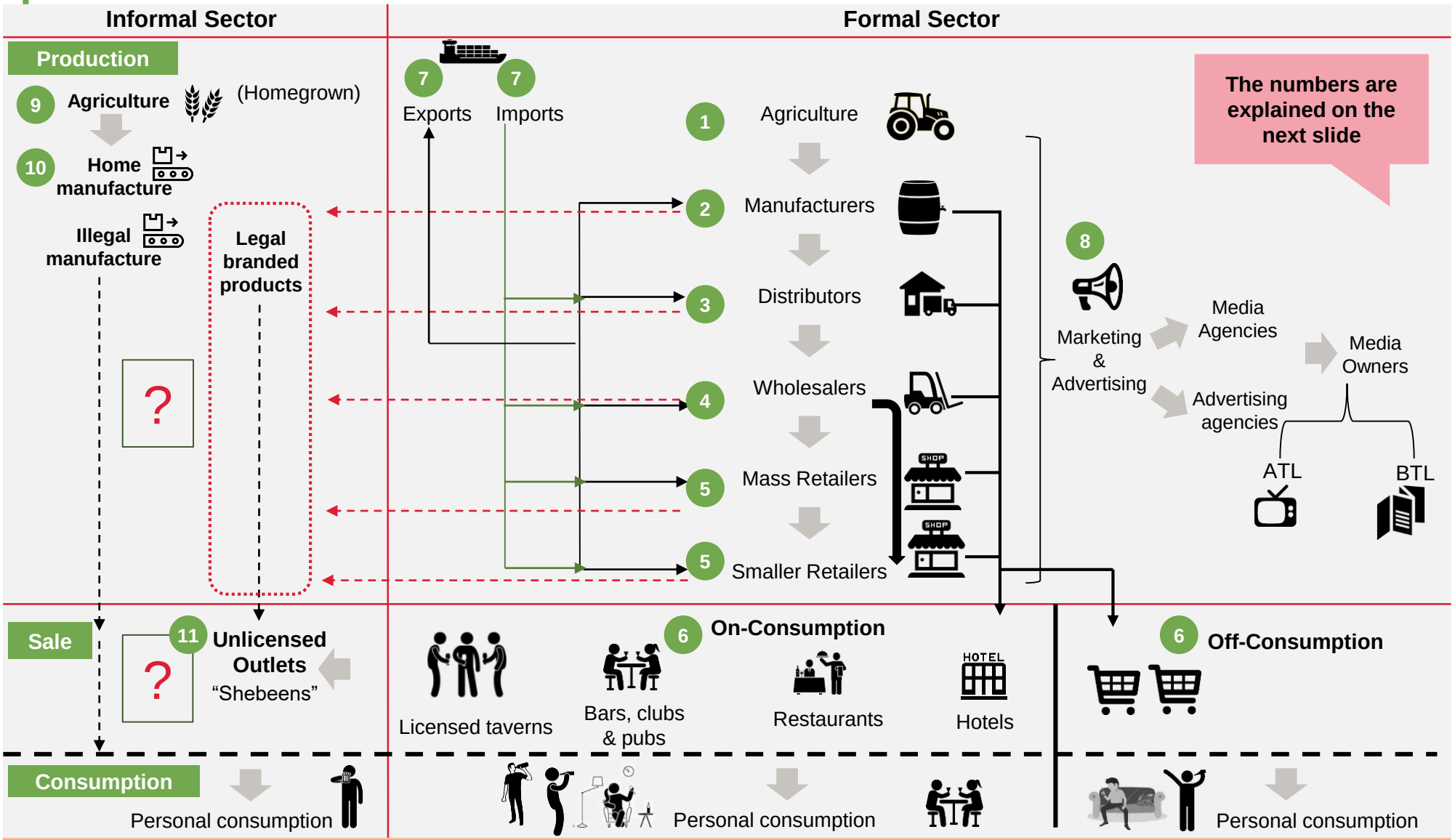
DEFINITIONS USED IN THIS SECTION

Term	Definition
Beer	The beer segment includes flavoured and traditional beer. Some industry definitions include beer as part of the RTD segment (mentioned below).
Ready-to-Drink (RTD)	The RTD segment includes ciders and ready-mixed drinks like flavoured alcoholic beverages (FABs), long drinks and pre-mix cocktails. Some industry definitions include beer as part of the RTD segment. For purposes of this report, we have split out beer from RTDs.
Spirits	The spirits segment comprises of agave based spirits (tequila), brandy, cane, flavoured spirits (bitters/spirit aperitifs, fruit eaux de vie, aniseed and liqueurs), gin and genever, national spirits (other white spirits), rum (white, dark and flavoured rum), vodka (traditional and flavoured vodka) and whisky (Canadian, Irish, Scotch, US and other).
Wine	The wine segment comprises of fortified wine (other fortified, port style, sherry/ sherry style), light aperitifs (vermouth, fruit-based aperitifs, wine aperitifs), other wines, sparkling wine and still wine.
On-Consumption	A licence granted specifically for the sale of alcohol for consumption on specific premises where the alcoholic is sold, for instance in restaurants, pubs and clubs.
Off-Consumption	A licence granted for the sale of alcohol for consumption away from (or “off”) the premises where it is sold. These premises include alcohol stores, distributors and wholesale entities.

Sources: 1. The IWSR, 2017, 2. Liquor Licence Concept

A simplified value chain of the alcohol industry



Source: 1. Genesis Analytics team analysis, 2017

The alcohol industry spans the primary, secondary and tertiary sectors

FORMAL SECTOR

1. **Agriculture:** The production of alcoholic beverages involves agricultural inputs including grapes, grains, hops, bulk juice, malt, maize, sugar, additives, oak products and other primary inputs like water and energy.

2. **Manufacturing:** The manufacturing process includes milling, mash conversion, lautering, boiling, fermentation, distillation and brewing the agricultural products at breweries, distilleries and wineries. Products are then moved to facilities where they are blended and matured either in wooden barrels or steel tanks. Various equipment and machinery is used during the manufacturing process like boilers, heaters, generators and cooling equipment. This process also includes bottling and packaging. A licence is required to make alcohol.

3. **Distribution:** The finished products are transported either by the manufacturer or by independent distributors by truck, rail, ship or air to other distributors, wholesalers, mass retailers and smaller retailers. Imported goods enter the value chain. Some products are exported. A licence is needed to distribute alcohol.

4. **Wholesalers:** Wholesalers distribute to mass retailers, smaller specialty retailers and some "on-consumption" establishments like taverns, shebeens, restaurants and bars. Imported goods enter the value chain here as well. A licence is needed to sell alcohol.

5. **Mass retailers and smaller retailers**: Mass, smaller and specialty retailers sell products to on-consumption establishments like restaurants, hotels, clubs, bars as well as to private consumers and households for off-consumption

6. **On-consumption:** The alcoholic beverages sold by these establishments is consumed on the premises and may not be removed from the premises. A licence is need to sell for "on-con".

   Off-consumption: The alcoholic beverages sold by these retailers (and some establishments) to consumers may not be consumed on the premises. A licence is needed to sell for "off-con".

7. **Exports**: Packaged and bulk alcohol beverages leave the domestic value chain from manufactures and distributors, as exports.

   Imports: Packaged and bulk alcoholic beverage imports enter the domestic value chain in distribution, wholesalers, mass retailers and smaller retailers.

8. **Advertising and Marketing:** Manufacturers, distributors, wholesalers and retailers use marketing and advertising to communicate with consumers. Media agencies, creative agencies and media owners are involved in advertising. See detailed value chain on slide 26.

INFORMAL SECTOR

9. **AGRICULTURE**
   Includes growing agricultural products to make traditional home-brewed alcohol.

10. **MANUFACTURE**
    This includes homebrewing, as well as industrial-scale manufacturing of illicit alcohol.

11. **UNLICENSED OUTLETS**
    These are usually referred to as "shebeens". They trade liquor for on or off consumption without licences (although there are a few licenced outlets). Legal branded products are patently sold in this sector. There is no information available on how these products end up in unlicensed outlets.

NB: The sale of branded products into the informal sector, and the operations of the unlicensed retail sector is poorly researched

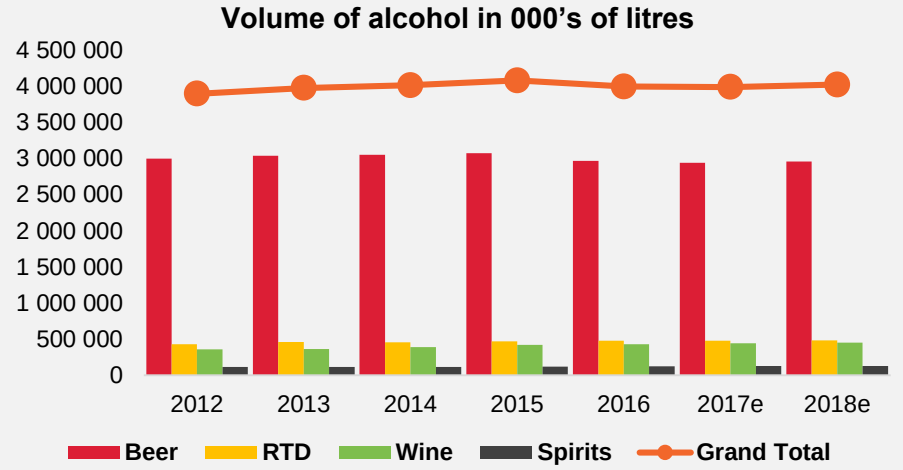
Source: 1. Genesis Analytics team analysis, 2017

The alcohol market is valued between R100bn and R129bn a year. Beer is the most popular product.

The alcoholic beverage industry comprises mainly of beer, wine, spirits and ready-to-drink (RTD) segments.

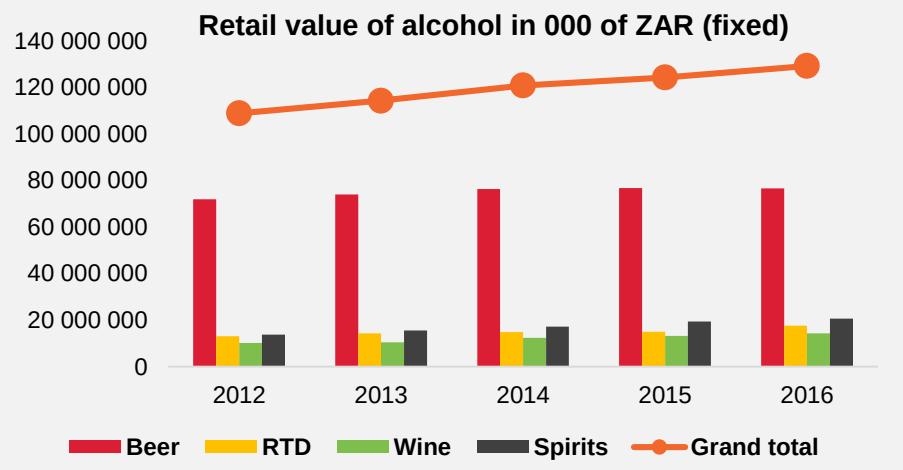
Note: In some definitions beer is included in the RTD segment

The beer segment dominates the market both in terms of volume…



- According to the International Wines and Spirits Record (IWSR), South Africans consumed approximately 3.99 billion litres of alcohol in 2016.
- Volumes have not grown significantly in five years, suggesting that the market is mature.
- The beer segment dominates with 74.2% of the market share (by volume) in 2016, followed by RTDs with 11.9%, wine with 10.8% and then spirits with 3.1% in terms of volume (*see next slide for more details*)

… and in terms of value. The composition mix has been consistent for five years.



- According to the IWSR, the alcohol beverage industry is estimated to have a retail value of R129 billion in 2016. Other sources indicate as low as R100bn and as high as R139bn.
- The beer segment dominates the market constituting 59.3% of market by value, followed by spirits with 16.0%, RTDs with13.7% and wine with 11.1%.
- These values are determined using a (2016) USD-ZAR exchange rate of 1 USD = 14.7129 ZAR and are adjusted for inflation.

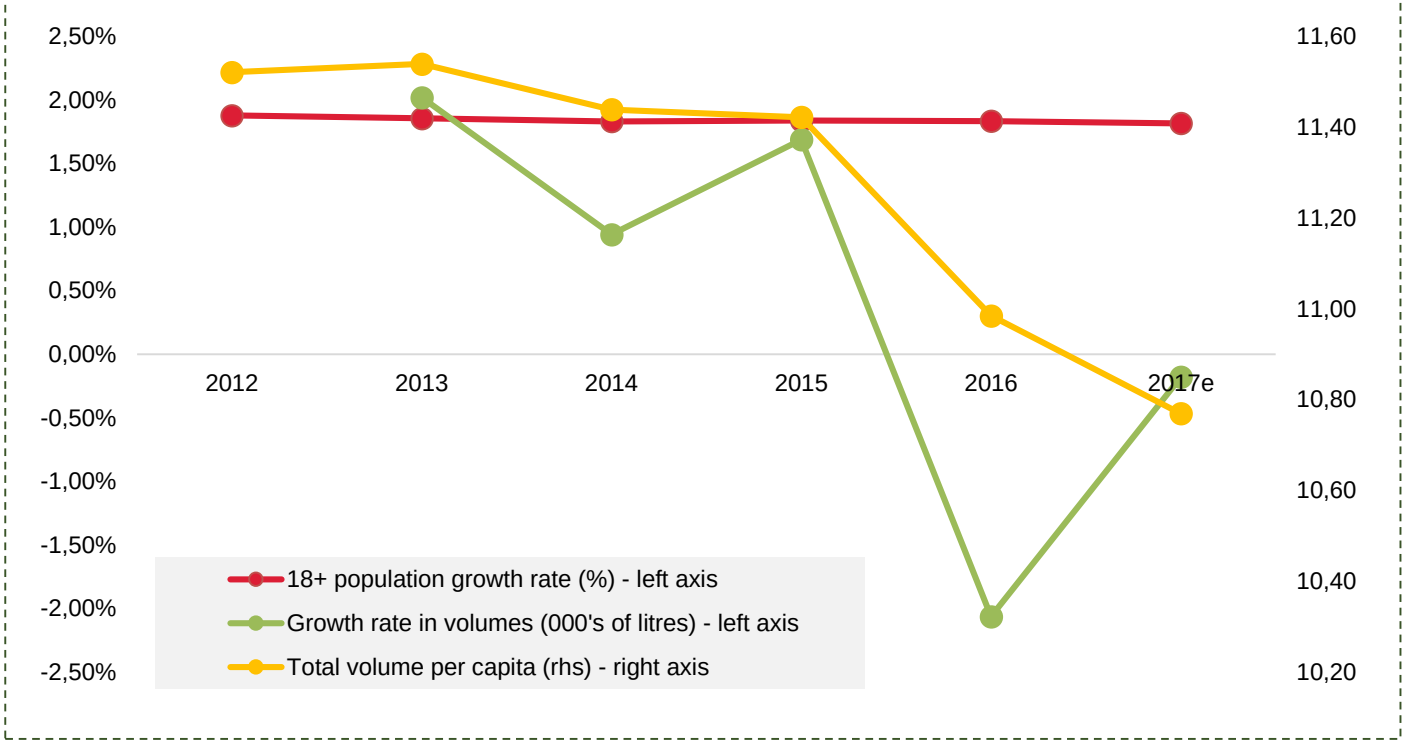
Sources: 1. National Treasury, A review of the taxation of alcoholic beverages in South Africa, 2014, 2. SAWIS, liquor consumption patterns in South Africa, 2015, 3.The IWSR, 2017, 4. Annual average exchange rates, Nedbank, 5. Stats SA, Consumer Price Index, 2017.

Volumes of alcohol sold have been relatively stable for five years, and consumption per capita has fallen slightly.

Volume in %	2012	2013	2014	2015	2016
Beer	76.9	76.5	76.0	75.3	74.2
RTD	11.0	11.5	11.4	11.5	11.9
Wine	9.2	9.1	9.7	10.3	10.8
Spirits	3.0	2.9	2.9	2.9	3.1

Retail value in real terms % (fixed, 2016)	2012	2013	2014	2015	2016
Beer	66.1	64.7	63.2	61.7	59.3
RTD	12.0	12.5	12.3	12.1	13.7
Wine	9.3	9.2	10.2	10.7	11.1
Spirits	12.6	13.6	14.3	15.6	16.0

Total alcohol volumes in litres per capita and % change relative to the 18+ population growth rate

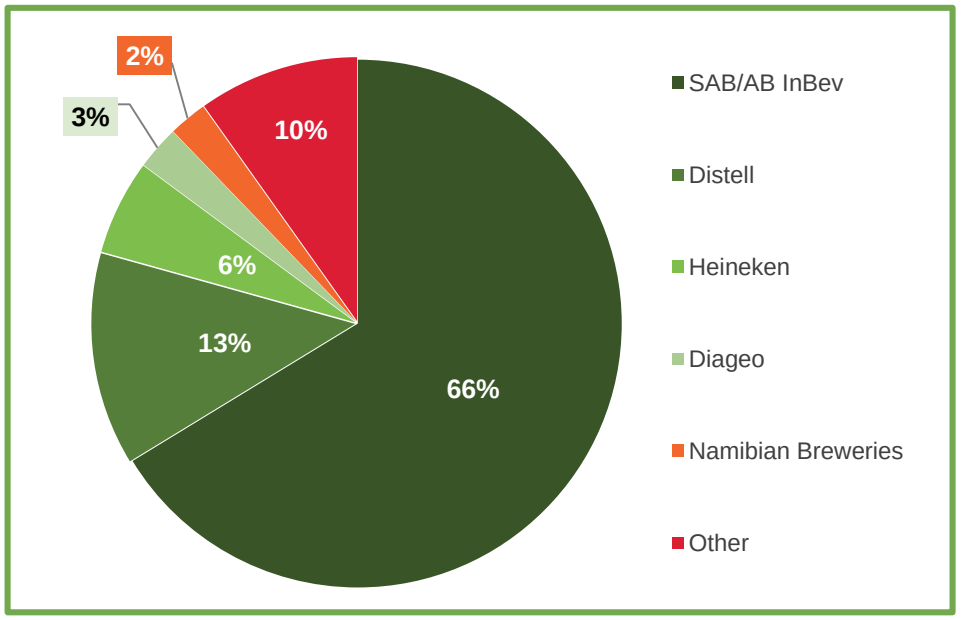


- From 2012 to 2016, the average growth rate in the volume of alcohol consumed was 0.65% p.a.
- The estimated growth rate in the 18+ population over the same period was an average of 1.84%.
- This suggests that consumption per capita growth rate has fallen over the past five years. This is in line with global trends.
- Based on the averages of the LDA population from 2012 to 2016, it is estimated that the volume of liquor consumed (L/per capita- decreased from 11.52 to 10.98
- This tends to support the industry view that the alcohol market is mature, and the view that advertising is used to take market share away from competitors. However, others argue that advertising is targeted at attracting new consumers, like youth and women in order to grow the market.

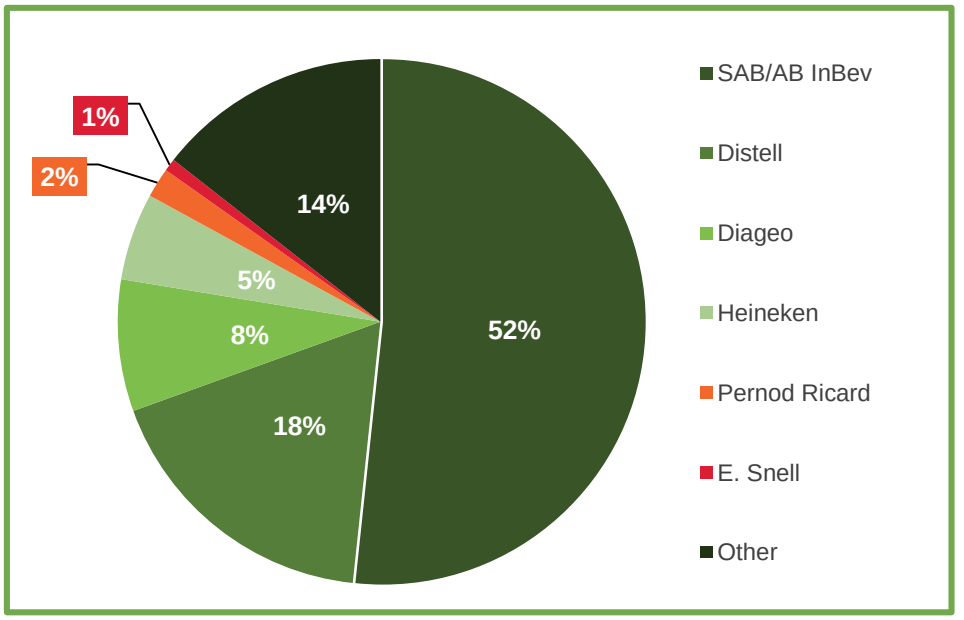
Sources: 1. The IWSR, 2017, 2. STATS SA, Mid-year population estimates, 2017

The alcohol industry is consolidated in manufacturing and distribution, with the top five companies holding between 85% (value) and 90% (volume) of the market.

Retail market share (by volume) by manufacturers and brand distributors, (2016)



Retail market share (by value) by manufactures and brand distributors, (2016)



- The alcohol industry has been in period of consolidation over five years, with a number of mergers and acquisitions.
- Competition in the value chain is “dumbbell-shaped” – with high levels of competition and fragmentation in agriculture and retail on either end, and high levels of consolidation in manufacturing and distribution industries (wine manufacturing is an obvious exception).
- The larger companies in the industry –SAB/AB InBev, Distell, Heineken and Diageo account for 88% in volume and 83% in value of the retail market. Levels of competition is an important theme in the impact assessment. Also important for later consideration: the five large players dominate advertising spending “above-the-line”; while small houses make more use of “below-the-line” marketing.

Sources: 1. Econometrix (Pty) Ltd, *Economic impact of an advertising an on alcoholic beverages, 2013*, 2. Business Day, *SA alcohol industry can stimulate – or slow down – investment*, 2017, 3.Forbes, *It’s Final: AB InBev closes on deal to buy SABMiller*, 2016, 4.Chicago Tribune, *With new owner, MillerCoors focuses on growth*, 2016; 5. Input from consultation, 2017; 6. SAB, Our Brands;

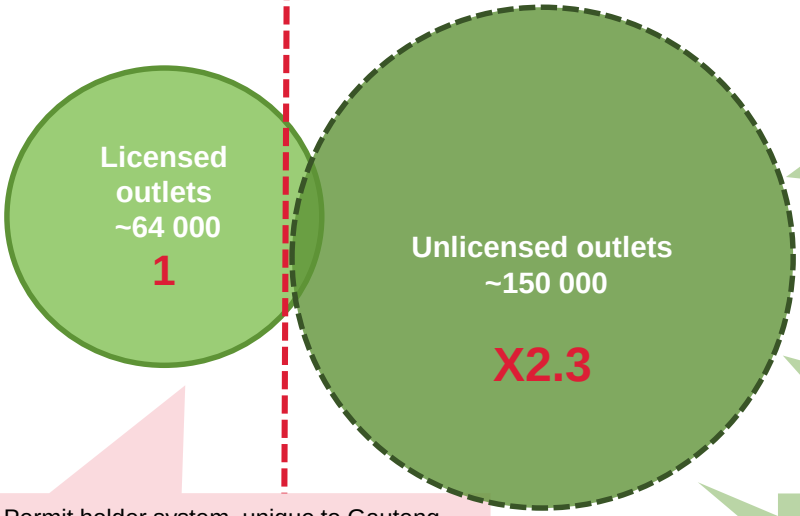
We estimate the ratio of licensed outlets to unlicensed outlets at 1:2.3 (~64,000: ~150,000) but in some township and informal settlements this ratio may be as high as 1:5.

DEFINITIONS IN THIS SECTION:

- Informal sector: Parts of the economy that typically operate without official documentation, or do not contribute taxes, or are not well monitored by government, or which are under-researched. Some drinking establishments in the formal sector may have licenses but most do not.
- Informal manufacture: The making of alcoholic beverages outside of formal industrial processes. Also referred to as “homebrewing”.
- Illicit manufacture: Turning spirits, for instance, ethanol or methylated spirits, into drinking alcohol.
- Illicit imports: Smuggled alcoholic products.
- Unlicensed retail: In the informal sector, distributing and selling branded products and homebrew for on-con and off-con without a licence. Unlicensed retail is the only informal activity considered in the study.

The number of unlicensed outlets is about two times greater than licensed

FORMAL | INFORMAL



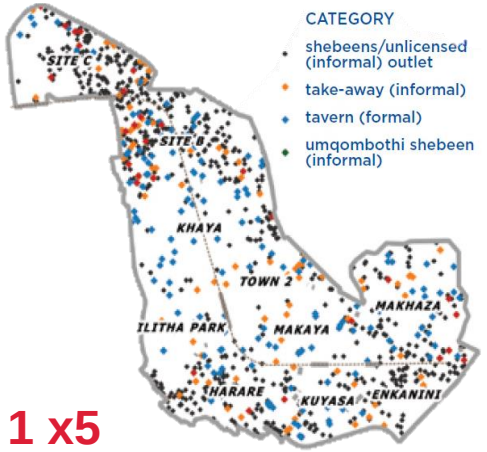
Permit holder system, unique to Gauteng, bridges the gap between formal and informal. Holders have to adhere to less stringent conditions and permits are cheaper.

In a report by the Sustainable Livelihoods Foundation (2011) on retailing in the townships of Cape Town, alcohol retailers are the single most numerous category of micro-enterprise in the township informal economy.

DTI (2013) estimates that **1 in 6** traders in townships and informal settlements operate as informal alcohol traders. It is also estimated that **80%** (out of 500) informal alcohol traders never attempted to undergo the licencing process.

It has been estimated that there are at least between **180,000-250,000** individuals trading alcohol informally in South Africa.[6]

In Khayelitsha 874 out of 1044 available alcohol outlets were unlicensed (83%) (2015-2016) [8]



1 x5

The licensed: unlicensed ratio of 1:5 was higher as alcohol hotspots were sampled.[8]

Sources: 1.WHO (2014), 2. Truen et al. (2011), 3. Fieldgate et al. (2013), 4. Euromonitor International (2013), 5. Consultations with experts, 6. Sustainable Livelihoods Foundation (2011) 7. DTI (2013); 8. Department of Community, Western Cape (2016)

Formal v informal outlets

FORMAL	INFORMAL
REGULATION AND GOVERNANCE	
– Licensed sellers operating in the formal space are permitted to sell alcohol under a common set of regulations, which restrict operating hours and days. – All licensed traders are captured by the National Liquor Authority (NLA) and Provincial Liquor Authorities (PLA), providing accurate market sizing data. – In Gauteng a second tier of regulation called a “Shebeen Permit” exists to bridge the gap between licensed and unlicensed. – Employees are required to be over 18 years. – There are restrictions of operating hours and days. – The density of formal establishments is controlled.	– Sellers commonly do not have the documentation that permits the selling of alcohol. – Informal establishments do not conform to operating time regulation. – Difficult to size the this market. – The density of shebeens is greater in settlements where the majority of households do not own a vehicles. This indicates that shebeens serve a more localised market, residing within walking distance to homes and transport hubs – Regulation is difficult to enforce with significant levels of corruption reported in attempts to police shebeens. Levels of harassment and confiscation appear to be high. – Employment of minors, often family members, is common. – It is unknown whether that owners contribute taxes from their revenues.
STOCK SOURCING AND SELLING	
– Stock is bought from licensed manufacturers and distributors. – Despite formal traders being licensed and regulated, many still sell to minors. – Formal outlets operating in townships interact with informal outlets as they are located within close proximity and formal outlets sell stock to informal ones.	– Stock is bought directly from licensed taverns, bottle stores and wholesalers. – Minors are able to buy alcohol, either for their own consumption or to take home to their parents.
ECONOMIC	
	– Shebeens provide economic opportunity for black entrepreneurs, predominantly women, in townships. More than 50% of informal alcohol retailers are women. – There are livelihood factors that encourage women to pursue alcohol trading as a survivalist strategy, enabling them to derive a relatively secure income whilst looking after families at home. – These establishments are predominantly a result of Apartheid laws, which prohibited black-ownership and established race-based geographies.

Sources: 1.WHO (2014); 2. Truen et al. (2011); 3. Fieldgate et al. (2013); 4. Euromonitor International (2013); 5. Consultations with experts, 6. Sustainable Livelihoods Foundation (2011)

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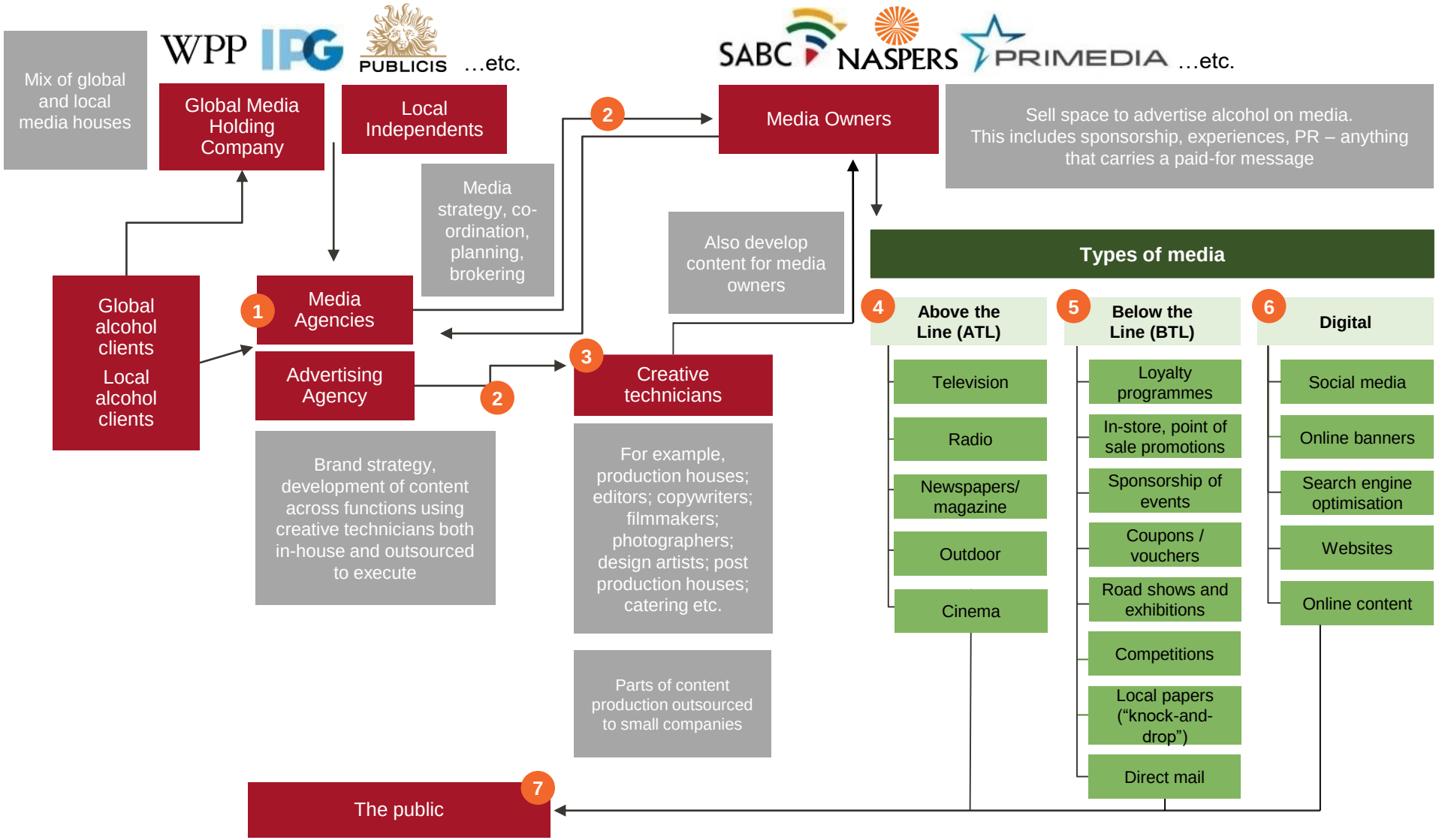
A simplified value chain of alcohol advertising



Source: Genesis Analytics, 2017; Interviews with advertising industry

Above-the-line (ATL) and below-the-line (BTL) advertising are two strategies used to advertise alcohol. The digital platform which cuts across both is becoming an important third platform.

4

- **Above-the-line (ATL)** refers to advertising using mass media platforms to reach consumers widely.
- This includes traditional media platforms like television, radio, print, cinema and out-of-home (billboards, bus shelters). It has mass and indiscriminate reach.
- ATL is more economical per contact per consumer because of its mass reach, but is more expensive on total spend value.
- ATL is dominated by big alcohol brand owners.
- There is good data available on ATL spending.

- **Television** dominates ATL spending
- Alcohol compromises approximately 3%* of all above-the line (ATL) advertising revenue on television

- **Radio**, relative to television is cheaper to produce and reaches a wide audience in South Africa.

- **Print** media owners sell print advertising space in newspapers and magazines.
- Generally, LSM 6 and above read print media in South Africa.

- **Out-of-home advertising** (OOH) is split between physical and digital formats and includes billboards, bus shelters, displays at sports arenas, airports, inside retail stores and elevators.
- Audience exposure to OOH is indiscriminate.

5

- **Below-the-line (BTL**) advertising involves a myriad of activities excluding traditional media. It could include direct mail, telephone marketing, in-store promotion and displays, special offers, branded events and vouchers, sports and events sponsorship.
- BTL is usually more audience-targeted than ATL.
- Smaller alcohol companies and brands use BTL platforms as they are significantly cheaper to access (for a targeted audience).
- There is no data available on spending of BTL platforms.

- **Festival and event** organisers suggest that sponsorship from alcohol is an important funding source for new events. Sponsorship sometimes covers almost 100% of event costs. For more established festivals, this would be in the region of 10-30% of costs.

- Alcohol is also advertised through **point of sale promotions and special deals** in retail stores.
- This could also include the distribution of **coupons and vouchers** to customers.

- **Direct mail and telephonic marketing** seek to target specific products to a customised set of consumers.

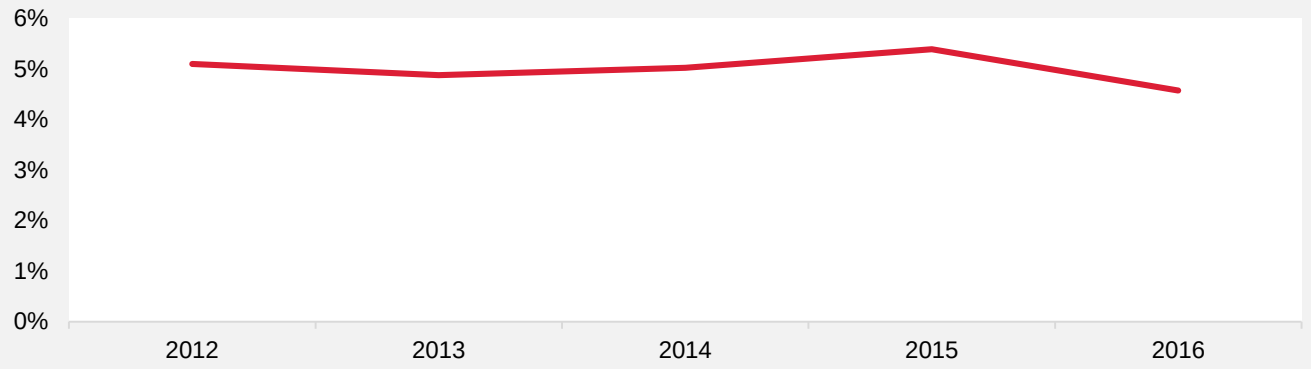
6

- **Digital platforms:** Alcohol advertising on digital platforms (mainly the internet) accounts for approximately 2% of total advertising spending in South Africa.
- At present, the digital sector is minimally dependent on the revenues generated from alcohol advertising, although there is alcohol advertising on social media platforms and websites. Digital is a growing area.

***Source:** AC Nielsen

Total ATL advertising spending is about R40bn a year. About 5% of this (or R2bn) is alcohol advertising. Most ATL spending is on beer and spirits.

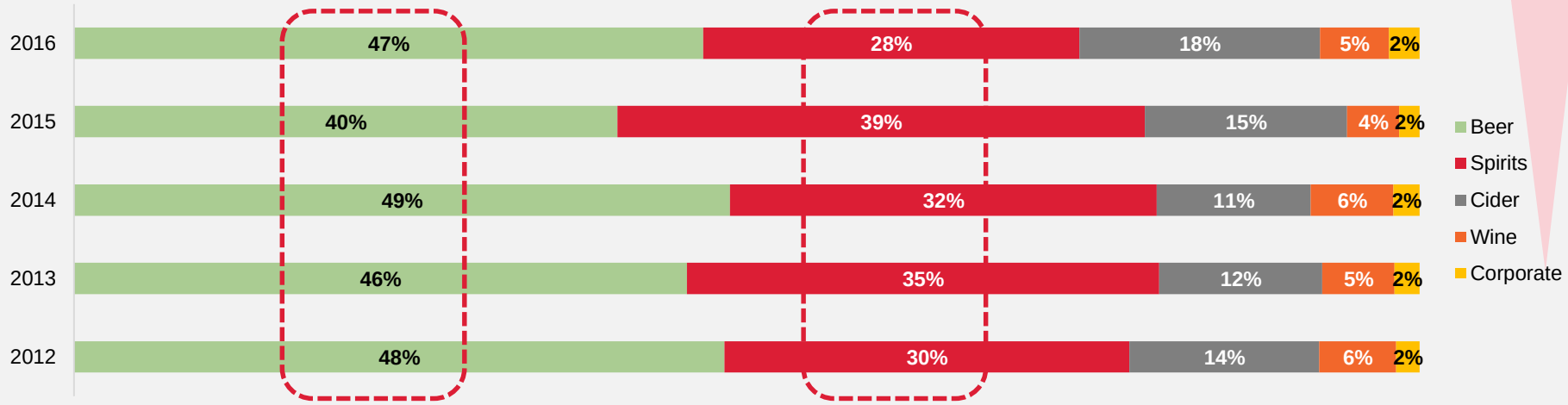
Proportion of alcohol advertising spending as a % of all advertising spending



Corporate advertising refers to advertising that is not for any specific product. This would typically be an advert warning against the harmful use of alcohol when driving.

The advert would be ascribed to the manufacturer (e.g. Distell) rather than a brand (e.g. Amarula)

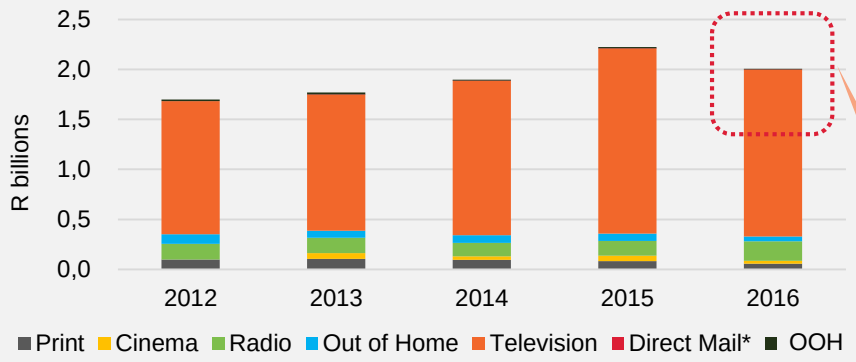
Relative share of alcohol categories in total advertising expenditure



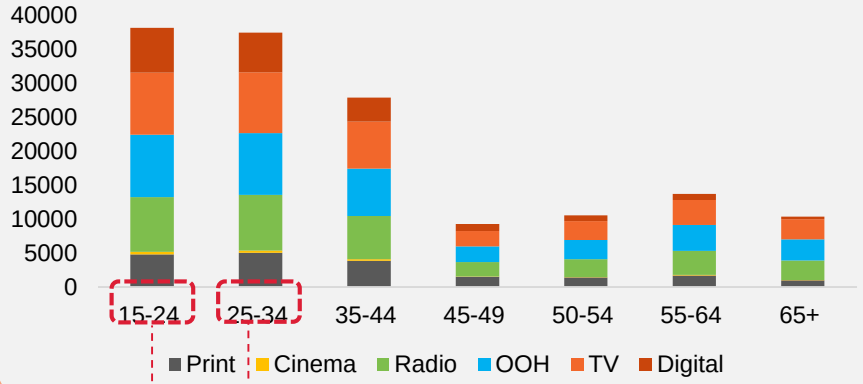
Source: AC Nielsen

About R2bn a year is spent on ATL alcohol advertising, with 60% on television. Amongst media corporations, the SABC, Multichoice and etv are the biggest beneficiaries of ATL alcohol advertising.

Total alcohol advertising spend



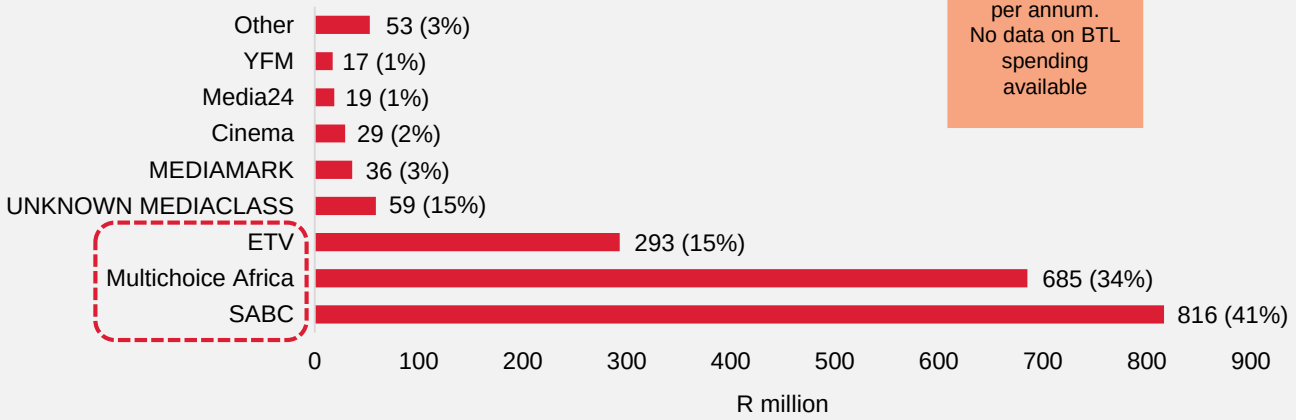
Media viewership/listenership by age group (000) millions



R2 billion on all ATL alcohol advertising across all media per annum. No data on BTL spending available

- These age cohorts are the largest consumers of digital and television media, with a cumulative viewership of over 28 million people.
- However, this is not to say not all TV and radio channels are attractive to young people.
- Many TV channels and radio stations have negligible 15 – 24 viewership/listenership
- The industry has committed in terms of ARA guidelines to abide by 70/30 rule, restricting advertising during programmes that have more than 30% <18 youth audience.

Key media owners in 2016, based on alcohol adspend

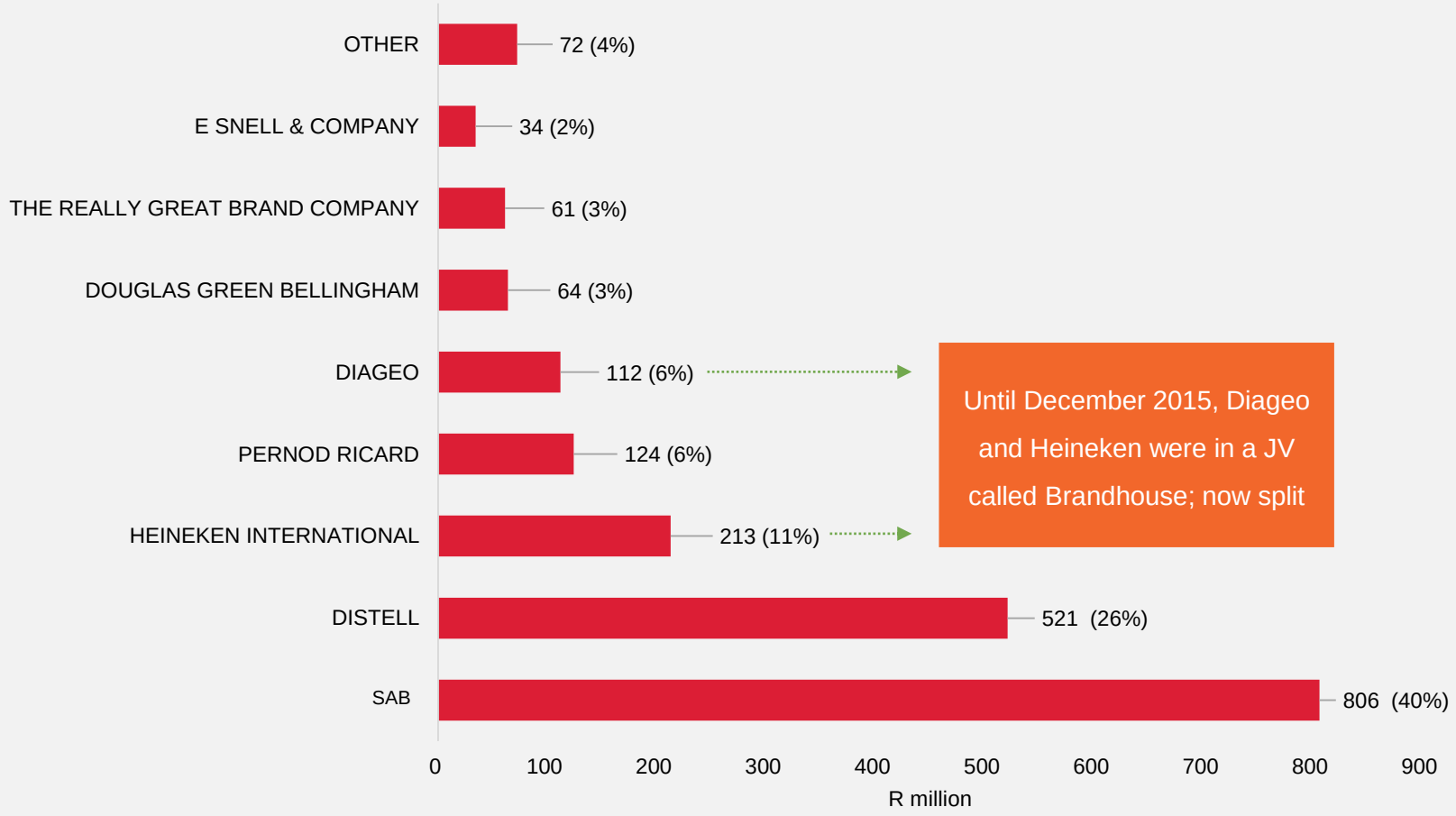


Multichoice:
Music channels: 30%
Mzansi channels: 22%
Supersport: 22%

*=Data is under reported
Source: AC Nielsen

SAB AB/Inbev and Distell are the biggest spenders on ATL advertising

Key alcohol advertisers in 2016, based on alcohol ad spending



Source: AC Nielsen

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The estimates of direct employment in the alcohol industry (production of alcohol, excludes retail) range from 21,300 to 49,280.

Employment statistics in the alcohol industry are not settled, nor is there a firm definition of what is considered a part of the alcohol industry. Genesis Analytics applied three methods to calculate the number 1) Industry consultations (2017) 2) previous reports and 3) modelling with Supply-Use tables 2015.

METHOD 1: INDUSTRY CONSULTATIONS

Research with the alcohol industry (excluding retail and the informal sector) suggests direct employment contribution is approximately 50,000 jobs in 2017.

Direct Employment: 49,280

METHOD 2: PREVIOUS REPORTS

- Econometrix (2013) estimated that the alcohol industry directly employed 21,300 people in 2009. This figure does not include the sorghum beer industry.
- DNA Economics (2011) estimated the alcohol manufacturing industry creates 29,166 jobs.

Direct Employment: approx. 21,300 – 29,166

METHOD 3: SUPPLY-USE TABLES MODEL, 2015

- Employment is derived from SSA QLFS data for the main sectors and for manufacturing subsectors from QES as published by TIPS.
- The QLFS and QES employment data (including the informal sector) refers to 2015 Q2 and Q3. The average of Q2 and Q3 is assumed to be representative for 2015 and is matched with output from the SUT. The number of activities in the employment data is 24. They are disaggregated to the 64 activities of the SUT using output shares.
- For the indirect and induced employment effects we make an adjustment using employment elasticities estimated by Moolman (2003). This ensures that we evaluate impacts at the margin.

Direct Employment: 41,177

Indirect and induced employment is calculated on this estimate on the next slide.

Source: Econometrix, 2013 | 2. DNA Economics, 2011 | 3. Industry consultations | Statistics South Africa, 2017. [http://www.statssa.gov.za/?page_id=1854&PPN=P0211] | 4. TIPS, 2015 (http://tips.org.za/publications/the-real-economy-bulletin/item/3016-the-real-economy-third-quarter-bulletin (sheet “employment by manufacturing ind”)|5. Moolman, E. 2003, [http://www.tips.org.za/research-archive/trade-and-industry/centre-for-real-economy-study-crest/item/324-an-econometric-analysis-of-labour-demand-at-an-industry-level-in-south-Africa] | 6. Genesis Analytics Own Calculations.

A Supply-Use model approximates an economy-wide impact of 244,333 jobs created from the alcohol industry with an R87.9 billion contribution to GDP in 2015.

TYPES OF IMPACTS

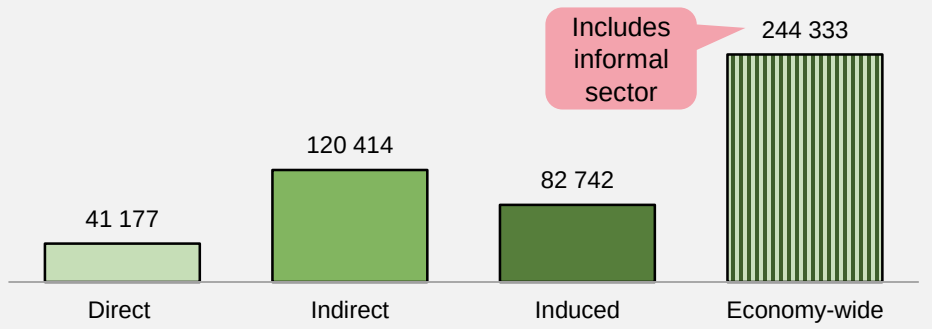
A. DIRECT IMPACTS are the initial, immediate economic activities generated by the producers of liquor and the sectors that supply directly to the industry. E.g. a person who is employed by an alcohol manufacturer, and a worker on a farm supplying hops to a brewery.

B. INDUCED IMPACTS are the effects of spending by the households in the local economy as the result of household income earnings associated with direct and indirect effects of the economic activity. E.g. Income earned by people employed in both alcohol industry and industries related, these individuals then spend income in other sectors by purchasing goods and services.

C. INDIRECT IMPACTS are the production, employment and income changes occurring in other businesses/industries in the businesses that supply inputs into the direct suppliers of the liquor industry. These would be suppliers during the production, manufacturing and transportation of liquor products to the market. E.g. A person working at a company manufacturing fermentation barrels and a worker driving a truck for a logistics company delivering alcohol.

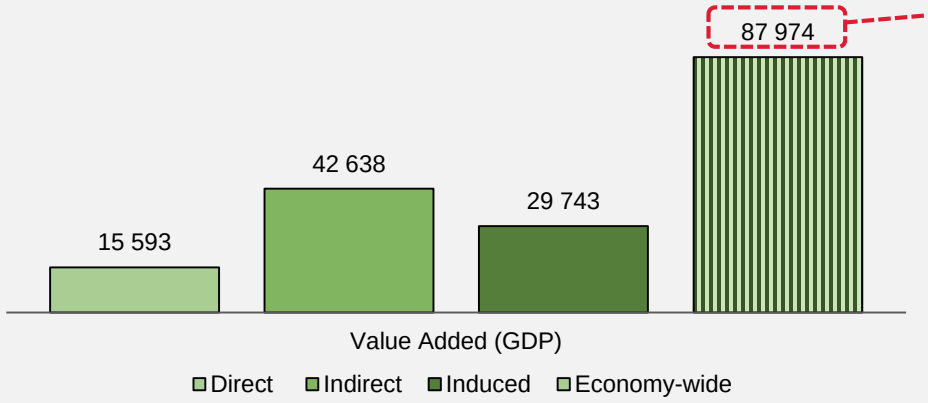
A + B + C = Economy-wide impacts is a sum of direct, indirect and induced impacts.

Total employment by alcohol industry (excluding retail), in numbers



Methodology: For the indirect and induced employment effects, adjustments are made using employment elasticities estimated by Moolman (2003) rather than using average employment output ratios which imply an elasticity of 1. The elasticities account for industry level trends. This ensures that we evaluate impacts at the margin.

Alcohol industry (excluding retail) value added output, Rand Millions



Value added is a measure of an industry's contribution to the overall economy. It indicates the additional value created during the production process. The alcohol sector contribution to the national economy in 2015 was R88 billion. Industry estimates the alcohol market value at R100 – 129 billion in 2016.

Methodology: A Supply - Use Table (SUT) model is used to measure the output impact from the alcohol industry. It is derived from a Statistics SA (SSA) Supply Table (ST) and Use Table (UT) for the year 2015 and made consistent with the National Account for the same year as published by the March 2017 SA Reserve Bank Quarterly Bulletin. Using the National Accounts allows for the link to household income and expenditure to create type 1 and type 2 multipliers. Alcoholic beverage is a product identified in the ST. The domestic supply is used as the driver to evaluate direct, indirect (type 1) and induced (type2) output of alcoholic beverages. The value of trade and transport margins are added as reported in the ST since this represents an income to the trade and transport activity.

Sources: 1. Statistics South Africa, 2017 | 3. TIPS, 2015 (http://tips.org.za/publications/the-real-economy-bulletin/item/3016-the-real-economy-third-quarter-bulletin (sheet "employment by manufacturing ind") | 4. Moolman, E. 2003 | 5. Genesis Analytics Own Calculations.

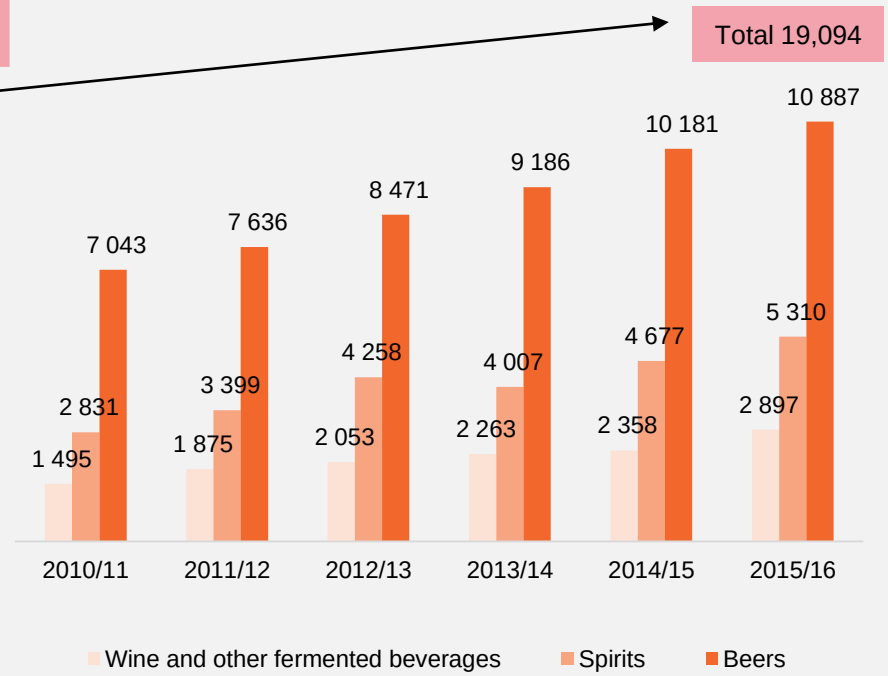
The alcohol industry generated an estimated R21billon in tax revenue (excluding VAT) in 2016; R19 billion of this was excise tax.

Specific excise tax makes up a majority of the tax revenue generated within the alcohol manufacturing industry.
Malt beer contributes a majority of the excise tax collected (on average 60% of specific excise tax on alcoholic beverages).
Between 2010/11 and 2014/15 excise tax rates on beer increased by 63% and by 103% for spirits.

Tax generated from the alcohol Industry

1.9% of total net tax revenue collected by SARS.

Specific excise duties on alcoholic beverages

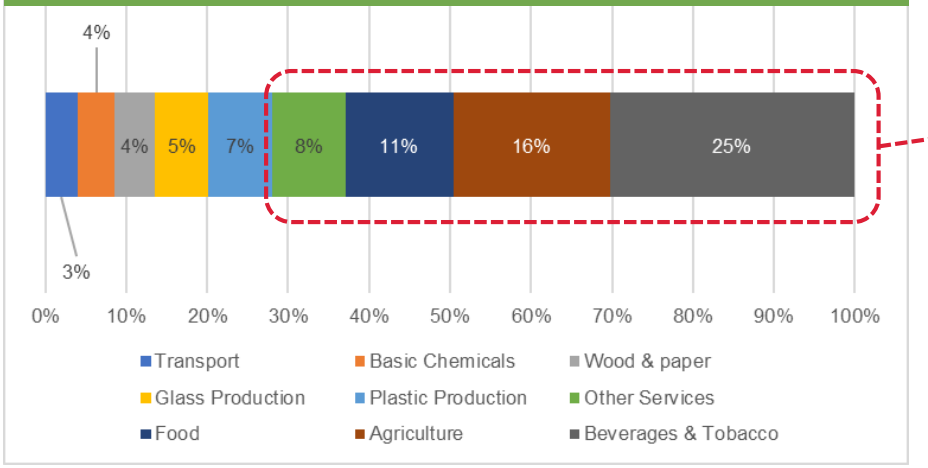


SARS does not report the corporate and personal income tax at the alcohol industry tax level. Therefore, an assumption is made, based on Econometrix, 2013, that the alcohol industry made up approximately 15.9% of the Food, Beverage and Tobacco industry in 2009. This ratio is applied across all subsequent years.

Sources: National Treasury Budget Review 2011/12 – 2015/16, SARS Tax Statistics 2011/12 – 2015/16, Econometrix, 2013.

The alcohol sector has forward and backward linkages to other sectors.

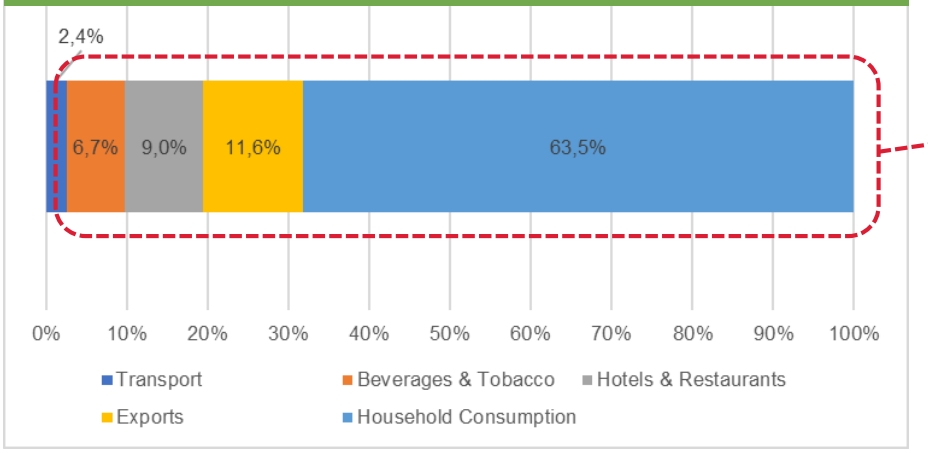
Backward Linkages for the Alcohol Sector, 2011



BACKWARD LINKAGES: provides information on the sectors that make up the supply chain for the alcohol sector and provide inputs into production i.e.) suppliers to the alcohol sector

Top four sector suppliers to the alcohol sector are the beverages & tobacco sector (25%), agriculture sector (16%) food sector (11%) and Services Sector (8%).

Forward Linkages for the Alcohol Sector, 2011



FORWARD LINKAGES: provides information on the use of goods and services from the alcohol sector i.e.) customers of the alcohol sector)

Top four downstream sectors are household consumers (64%), export sector (12%), hotels & restaurants sector (9%) and beverages & tobacco sector (7%). Some alcohol producers could supply product into other firms within the beverage & tobacco sector.

Source: University of Pretoria General Equilibrium Model; The purchases table is derived from the Input Output tables from Statistics South Africa. It describes the inter-industry relationships within the economy. **"Output of goods and services" is defined as items produced within a sector for use by another sector and own for final use within that sector**.

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Definitions in this section

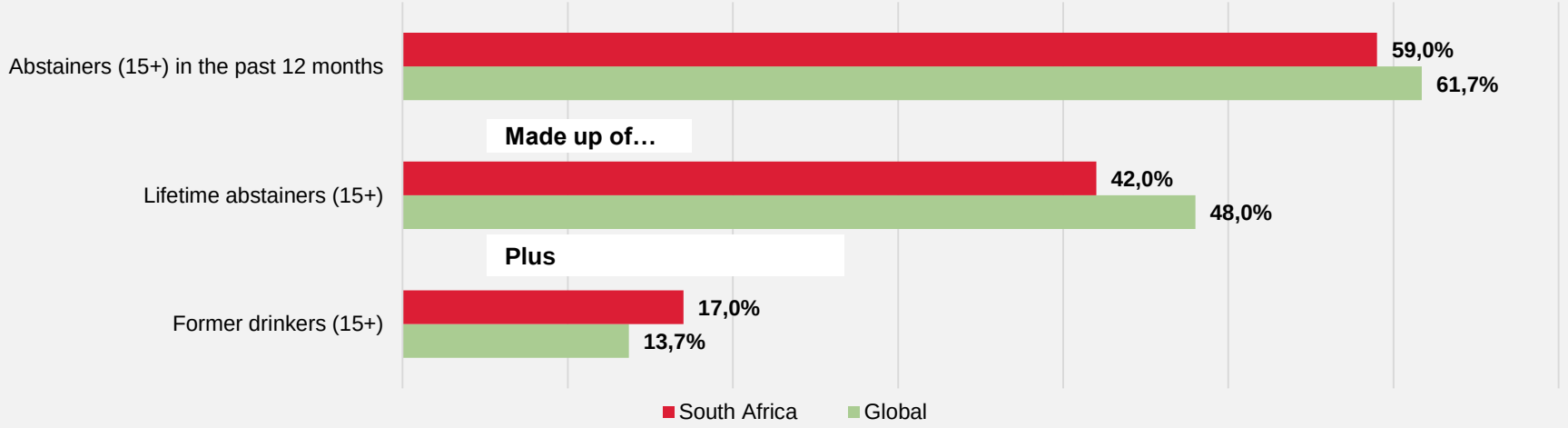
Term	Definition
Lifetime Drinking	Ever having consumed a drink that contains alcohol. Some studies add a proviso such as: “other than for a religious ceremony or just to sample or taste” to the question: “Have you ever had an alcoholic drink?”.
Current Drinking	Having consumed alcohol within a defined period of time in the past month or in the past year.
Alcohol Misuse	A collective term to encompass alcohol dependence and harmful alcohol use.
Alcohol Dependence	The repetitive pattern of excessive alcohol use with serious adverse consequences, often including a lack of control to stop drinking, development of a tolerance to alcohol and withdrawal symptoms. Measured using the CAGE questionnaire. The mnemonic CAGE stands for four yes/no items with questions on ‘Cutting down, Annoyance at criticism, Guilty feelings and use of Eye-openers. Individual item responses are scored 0 if the respondent answers “no” and 1 if the respondent answers “yes”, with the total score ranging from 0 to 4. The recommended cut-off for CAGE is two or more to screen for alcohol dependence, although a cut-off of one or more has been used in some studies. CAGE has demonstrated high test-re-test reliability and adequate correlations with other screening instruments. CAGE had a high sensitivity and specificity for screening for alcohol dependence in a South African sample. However, CAGE is an inappropriate screening tool for less severe forms of drinking, and it may be better to use the Alcohol Use Disorders Identification Test (AUDIT) to detect these.
Heavy Episodic Drinking or Binge Drinking	A pattern of heavy drinking that occurs in an extended period set aside for the purpose, often with intervening periods of abstinence. This is sometimes operationalised in studies as five or more drinks in one sitting for males and four or more drinks in one sitting for females. In other studies binge drinking is measured by asking respondents: “How often do you have six (males)/ five (females) or more drinks on one occasion?”.
Hazardous Drinking	A quantity or pattern of alcohol consumption that is above recognised alcohol patterns and which places patients at risk for adverse health events. Hazardous drinking is also referred to as problem, heavy or excessive drinking.

Sources: 1.Peltzer & Phaswana-Mafuya (2013) 2. Johnson et al. (2009) 3. Parry et al. (1998) 4. National Collaborating Centre for Mental Health (2011) 5. Bradley et al. (1998) 6. Ewing (1984) 7. Fiellin et al. (2000) 8. Dhalla & Kopec (2007) 9. Claassen (1999) 10. Aertgeerts et al. (2004) 11. World Health Organization (1994) 12. Wechsler & Austin (1998) 13. Fritz et al. (2013) 14. Babor et al. (2001) 15. Reid et al. (1999) 16. Pitpitan et al. (2013) 17. Dunkle et al. (2007) 18. Morojele et al. (2006).

More than half of the South African population (15+) abstains from drinking alcohol. Only 23.4% are current drinkers.

South Africa's abstention rate (15+) is in line with the global average

Prevalence of abstention in South African and Globally (WHO, 2010)



About 59% of South African adults (15+) have not had an alcoholic drink in the past year.

The lifetime abstention rate is 42% (according to WHO 2014) (49.6% according to SADHS 2016).

TRENDS AMONG CURRENT DRINKERS IN SOUTH AFRICA:

- Only about 23.4% of adult South Africans (15+) are current drinkers (past 7 days).
- More males are current drinkers than females (36.8% vs 9.9%).
- Current drinking, is lower in ages 15-19 years compared ages 20+. However, current drinking is still unacceptable high in youth (15-19).

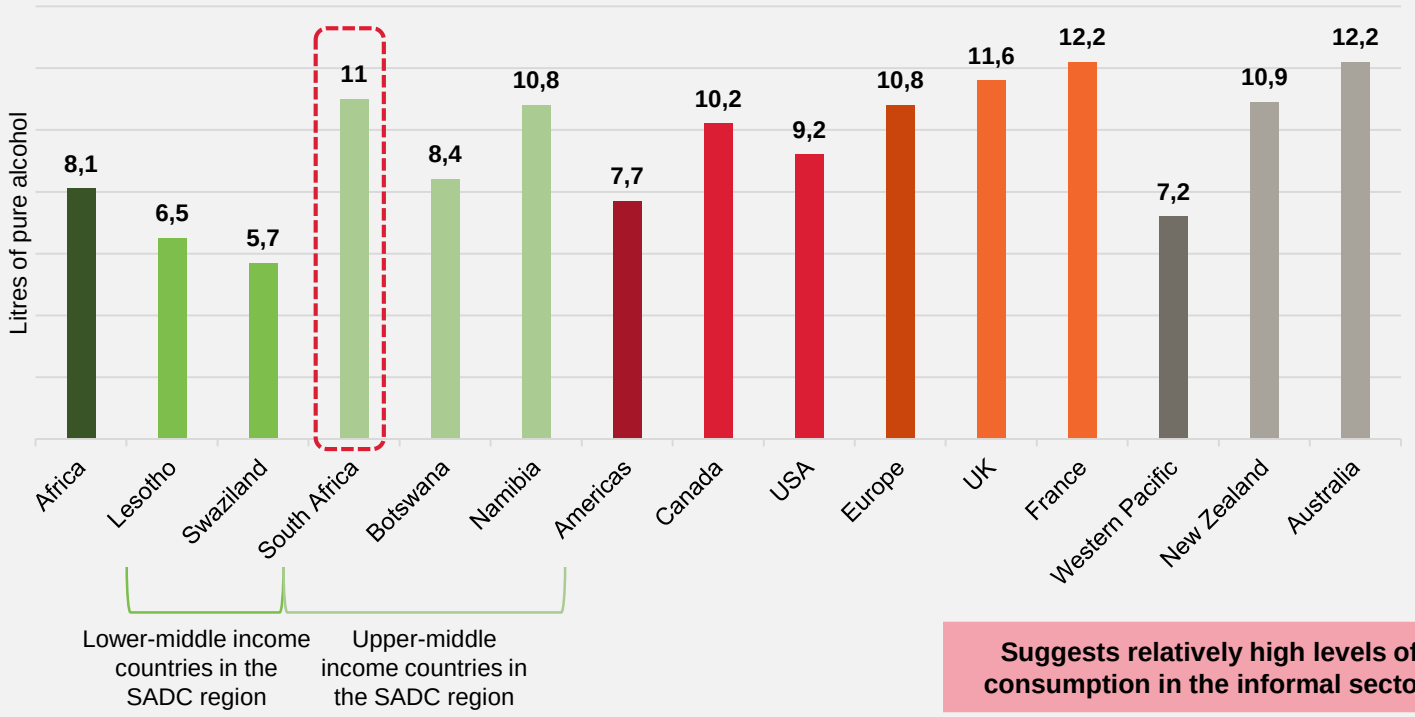
Sources: 1. WHO (2014); 2. Shisana et al. (2013); 3. Reddy et al. (2011); 4. Kalichman et al. (2008); 5. Norris et al. (2009); 6. Woelk et al. (2002); 7. Morojele et al. (2006); 8. Holtzkampf & SAWIS (2015) 9. Consultation with expert

Despite high levels of abstention, South Africa's total consumption is in the top 15 percentile internationally (29 out of 191 countries).

The average adult (15+) per capita consumption (APC) rate is 8.2L of pure alcohol consumed per year in South Africa

This is regarded as an underestimation because of the large informal alcohol market. Thus a portion of South Africa's alcohol consumption is unrecorded. WHO (2014) estimates that per capita **unrecorded** alcohol consumption is 2.9L a year, **making the total per capita consumption per capita about 11L of pure alcohol a year.**

Total (recorded and unrecorded) average APC rate in regions and countries



Suggests relatively high levels of consumption in the informal sector.

South Africa's APC ranking relative to 191 countries

South Africa ranks…

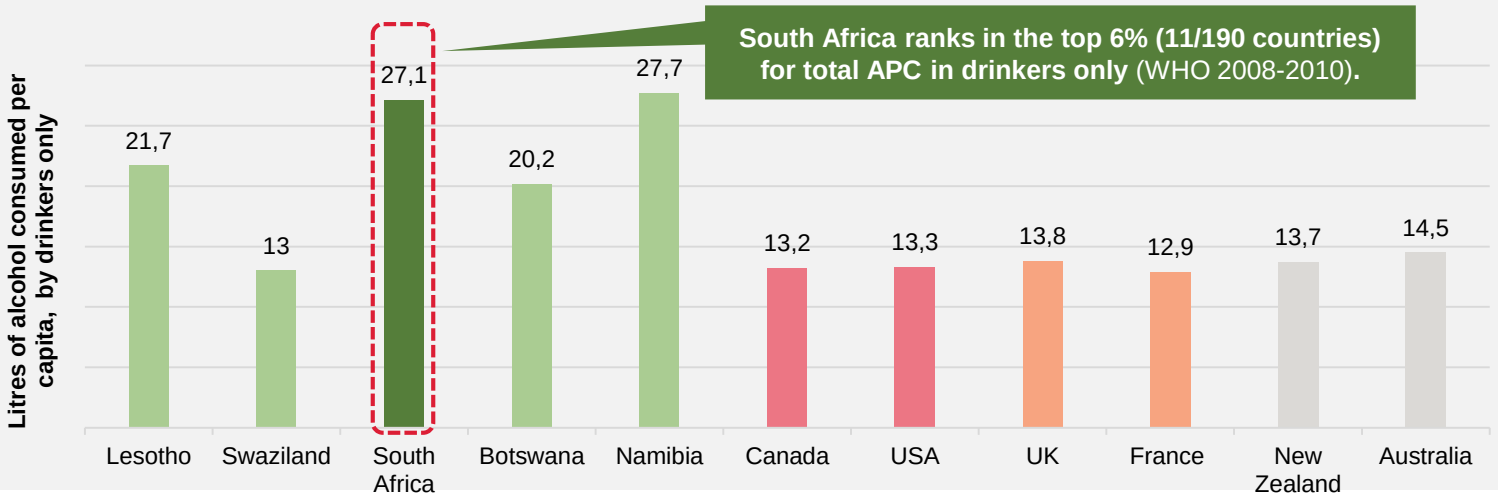
- **29th** (Top 15%) …in total (recorded and unrecorded) APC (15+)
- **41st** (Top 21%) …in recorded APC (15+)
- **19th** (Top 10%) …in unrecorded APC (15+)

South Africa's average APC per year is similar to that of other upper-middle to high income countries (like Canada, the United Kingdom, and New Zealand) but is higher than in other African countries (like Botswana, Swaziland and Lesotho).

Sources: 1.WHO (2014)

Those who do drink, drink heavily. South Africa ranks in the top 6% of countries for volume of consumption by drinkers. Heavy episodic drinking is common.

Heavy episodic drinking behaviour is characteristic of developing countries (WHO, 2014)



Prevalence of binge drinking in age 15+ in the SADC region (WHO, 2014)

Tanzania	14.1%
Namibia	12.8%
Mauritius	12.0%
Zimbabwe	12.0%
South Africa	**9.8%**
Malawi	8.2%
Botswana	6.4%
Swaziland	6.2%
Angola	4.0%
Lesotho	3.4%
DRC	2.5%
Zambia	2.5%
Mozambique	0.9%

Higher APC rate in drinkers (27.1L/capita) than that of the whole adult (15+) population (11.0L/capita)

9.8% of South Africans (15+) report heavy episodic (binge) drinking

- Higher in males (17.1%) than females (3.8%), however females show the greatest increase in binge drinking in recent years.
- Binge drinking in males is similar across race groups. In females, binge drinking is highest in the coloured race group (10%), then the black race group (5%), then the white race group (4%).
- Binge drinking tends to occur on weekends (4-5 times higher over weekends than over weekdays).
- Binge drinking is more common in urban areas than rural areas.
- Northern Cape, Western Cape and North West provinces have the highest binge drinking rates, while KwaZulu-Natal and Limpopo have the lowest.
- Binge drinking is a more common problem in the informal retail sector, than the formal sector.

South Africa's drinking problem is primarily a result of **binge drinking**

- Binge drinking is associated alcohol-related harms such as chronic disease, injuries, and social problems.

Alcohol **dependence**, while an issues, affects far fewer people

- Alcohol dependence (alcoholism) accounts for a relatively small amount of harm as it affects fewer people (15+)
- Alcohol dependence is relatively low across all female age groups, while the prevalence in males increases with age (6% in 15-19 years to 21% in 20-24 year).
- Alcohol dependence is higher in males (16%) than females (3%).

Sources: 1. WHO (2014); 2 Department of Health (1998, 2003, 2016)

Early uptake of alcohol by children and youth binge drinking are particular problems

South African youth

49.2% of youth (13-19) have ever had a drink.

32.3% of youth (13-19) currently consume alcohol (past 30 days).

25.1% of youth (13-19) engage in binge drinking[1].

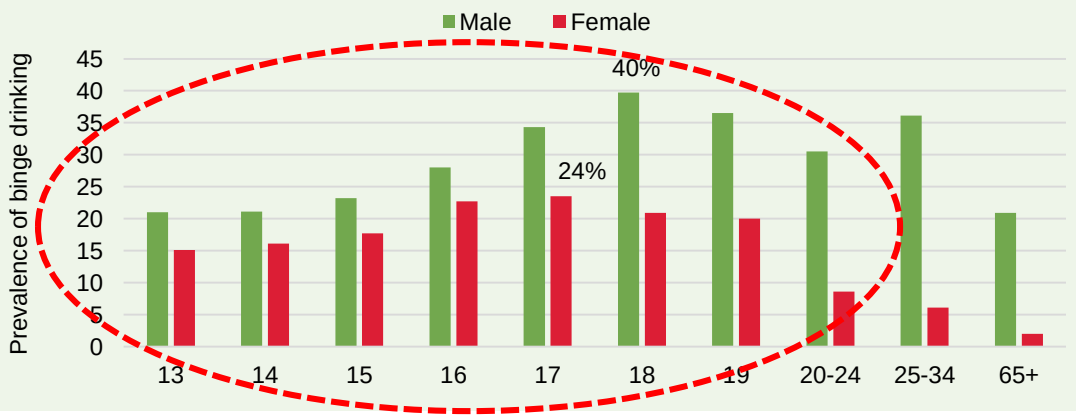
12.4% of South African youth (13-19) drank alcohol for the first time (initiated) before the age of 13

- The initiation to alcohol before 13 years is higher in males (16.3%) than in females (8.7%).
- Gauteng has the highest rate of initiation before 13 years (20.7%), while the lowest is in Limpopo (5.9%).

30% of males and 20% of females (13-19 years) report binge drinking in the past 30 days

- Binge drinking in youth is higher in Coloureds (42%), compared to Whites (31%), Indians (29%) and Blacks (23%).
- Youth binge drinking is highest in the Northern Cape (37%), Free State (36%) and Western Cape (35%).

Prevalence of binge drinking, disaggregated by age



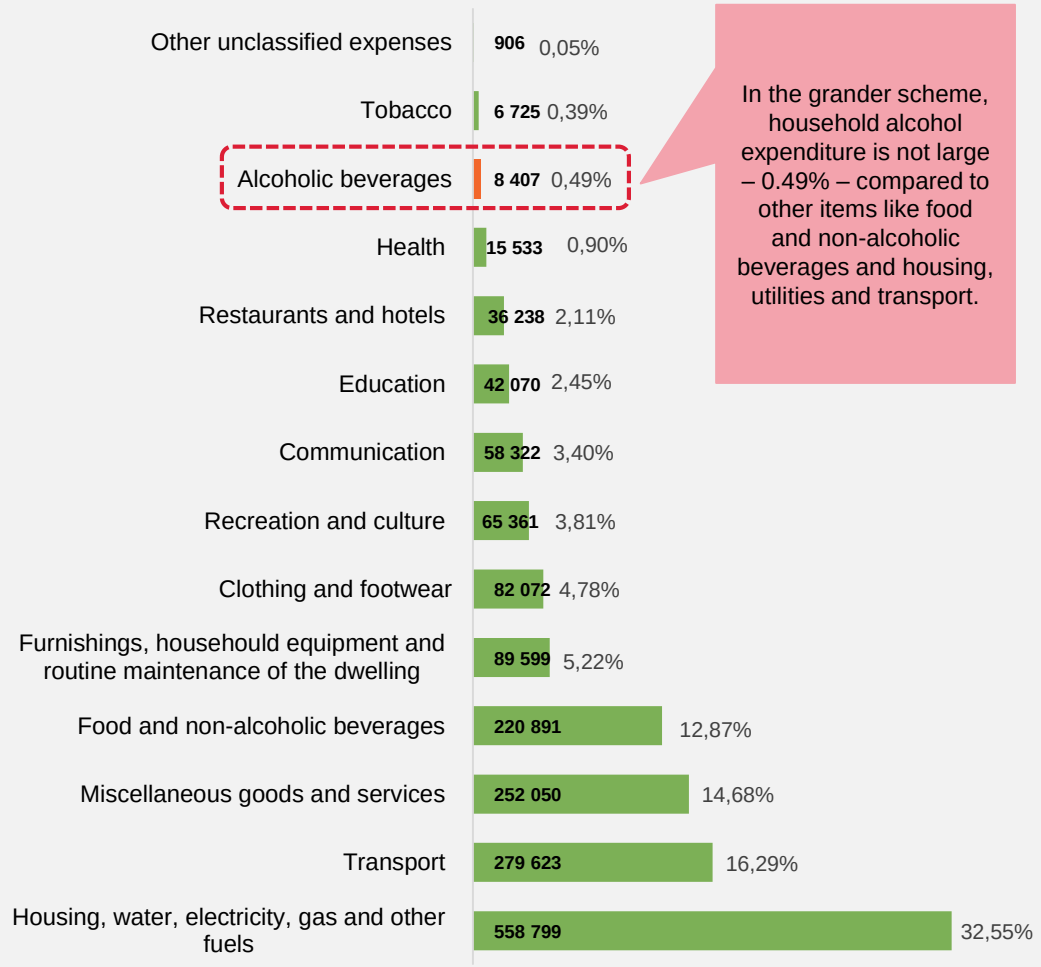
Why youth drinking is harmful

- The brain completes development at 25 years; drinking, especially binge drinking, before this age can impair cognitive development.
- The use of alcohol at an early age can be a predictor of harmful alcohol use later in life.
- Delaying the onset of alcohol initiation is protective; if an individual is not alcohol dependent by 25, then they are unlikely to become dependent in the future.
- The early initiation of alcohol is also associated with other substance abuse problems later in life.
- Youth binge drinkers are at greater risk of physical, emotional and social harm.

Sources: 1.Reddy et al. (2011); 2. Department of Health (2016); 3. Grant & Dawson (1998); 4. Ramsoomar & Morojele (2012); 5. Consultation with expert

Spending on alcoholic beverages accounts for 0.5% of total household expenditure. People younger than 24 spend a larger share of disposable income on alcohol than those older than 24.

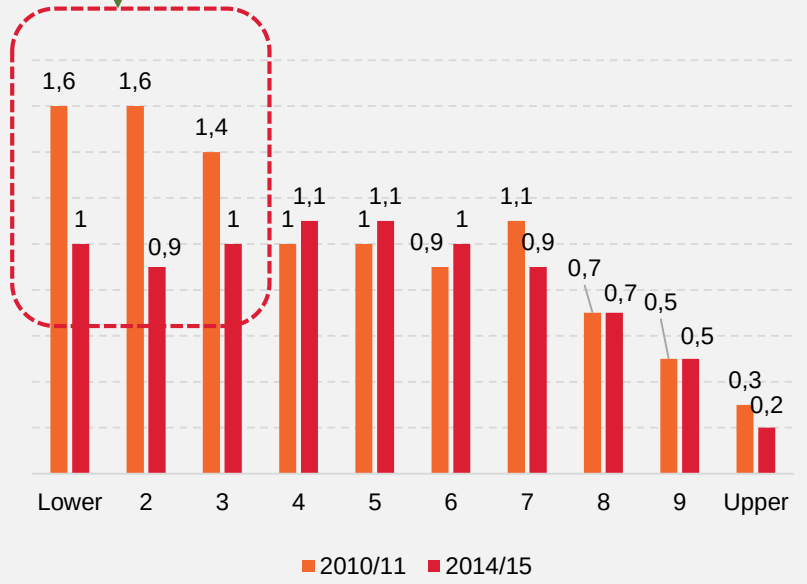
Total annual household consumption expenditure by main expenditure group for 2015, Rand Million



In the grander scheme, household alcohol expenditure is not large – 0.49% – compared to other items like food and non-alcoholic beverages and housing, utilities and transport.

- The 15 to 24 age group spends significantly more of disposable income on alcoholic beverages than other age groups. The annual median earnings in 2011 of 15 to 24 age was R26,233 with 4.3% being spent on alcohol (R1,128). In comparison, the 45 to 54 age group earns R43,722 but only spends R1,006 or 2.3% of their income on alcohol.
- According to a report by DNA Economics (2011) lower-income households spend a larger portion of income – almost double – in comparison to higher income households.
- For the lower 10% of households we see a decrease in annual household consumption expenditure from 1.6% (R151 per household) of total household expenditure to 1.0% (R101 per household) over the period.

Percentage distribution of annual household consumption expenditure by expenditure decile



Sources: 1. DNA Economics, 2011 | 2. Econometrix, 2013 | 3. Statistics South Africa, 2010, 2011 & 2015.

Price and income elasticities of demand vary across alcoholic beverages, with beer being most price inelastic and RTDs the most price-elastic.

1 Income elasticity of demand shows the effect of a change in income on the quantity demanded.

- Liquor is generally considered to be a **"normal good",** i.e. quantity demanded increases when income increases.
- **Standard priced wine** has a negative income elasticity which means it is **considered an "inferior good"** (in the economic sense only). Quantity demanded of inferior goods falls as income increases.
- **Malt beer** has an income elasticity that is less than one indicating that it is a **"necessity good".** This means that as income increases, so does the quantity demanded. **However, the quantity demanded may not increase proportionately to the increases in income.**
- RTDs have an income elasticity of demand greater than 1 classifying it as a "luxury" or "**superior**" good.

2 The price elasticity of demand indicates how sensitive consumers are to a change in prices.

- RTDs were found to be relatively elastic, i.e. small changes to the price of RTDs would cause a significant change in the quantity demanded.
- **Malt beer and spirits on the other hand are relatively inelastic. Large changes in the prices of malt beer and spirits would cause a smaller change in the quantity demand (all else remaining equal).**
- Standard priced wine is found in both studies to be perfectly inelastic, which means that quantity demanded does not change when prices change.

	Alcohol Category	DNA Economics, 2011	National Treasury, 2014
Income Elasticity 1	Malt Beer		0.45
	Wine		-0.8
	Spirits		0.65
Price Elasticity 2	Malt Beer	-0.8	-0.7
	Wine	-0.9	-1
	Spirits	-0.9	-0.9

Elasticities are relevant for fiscal policy interventions to deal with excessive alcohol consumption

It is important to understand the price and income elasticities of the various alcoholic beverages in relation to high consumers of alcohol versus moderate drinkers in order to have an effective tax mechanism.

Out of the three main categories of alcoholic beverages – beer, wine and spirits – beer has the highest household expenditure. Beer is also relatively price inelastic, therefore quantity demanded as a result of increased excise tax may not lead to a decrease in consumption (given all else stays the same). Various studies have shown that moderate drinkers are more price sensitive in comparison to heavy drinkers.

Understanding the South African consumer's elasticities to the beer, wine and spirits forms a basis in understanding the right mechanism in curbing excessive alcohol consumption. It could also inform of potential substitutions that may occur not only across alcoholic beverages but also from formal to informal outlets.

Sources: 1. DNA Economics, 2011 | 2. National Treasury, 2014, A Review Of The Taxation Of Alcoholic Beverages In South Africa. | 3. Saffer, H. et al. 2015. | Ramful, P & Zhuo, X. 2006.

Verbatim opinion from government agencies, NGOs, research institutions, and health journalists on consumption patterns

Expert opinions on alcohol consumption patterns in South Africa

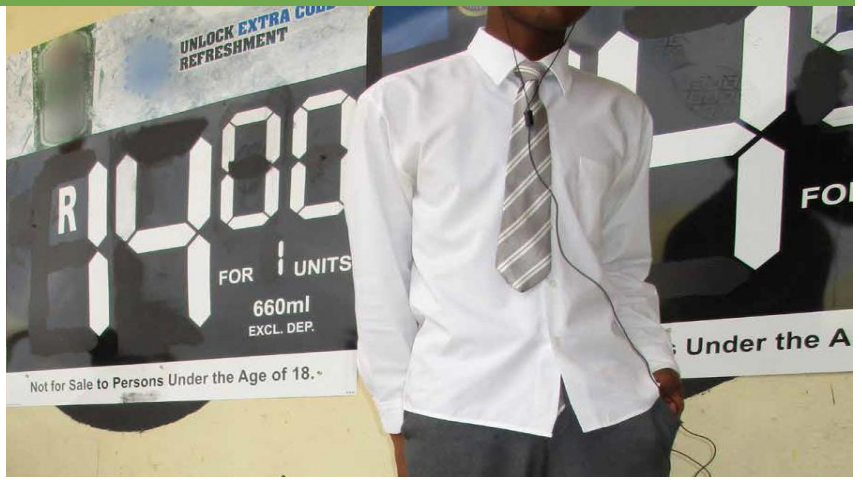
- “The majority of South Africans don’t drink”.
- “Binge drinking is problematic in those that do, particularly among the youth”.
- “The vast majority of new drinkers are between 18-24”.
- “Alcohol consumption has been relatively stable over time and has remained socially acceptable”.
- “Drinking for women is becoming more acceptable as women view drinking as a liberation”.
- “There are more people who drink in the formal space, but binge drinking is a greater problem in the informal space”.
- “There is a lack of rehabilitation facilities and programmes available, particularly in areas where people are prone to binge drinking”.
- “Drinking in South Africa is of particular concern – it is one of the top five countries in the world for binge drinking and related harms”.
- “We cannot afford the current rates of harm from a health and healthcare point of view”.

Sources: 1. Soul City (2017); 2. Herrick et al. (2014); 3. Consultations with experts

There is evidence that significant levels of hazardous drinking occur in or near informal outlets.

Licensed taverns and unlicensed outlets (shebeens) are important recreation sites in townships but they contribute to harmful drinking behaviour and social harms. Shebeens are easily accessible and can be hubs for underage drinking. Here is a summary of recent research on informal consumption:

- Binge drinking is common in the informal sector. [3]
- Low prices and discounts makes alcohol affordable for youth. Alcohol outlets are close to schools (<500m).[1] Parents send their children to buy alcohol for them.[1]
- Youths in Mpumalanga and South Africa reported that [1]:
  - They frequently witness and experience alcohol-related sexual health risks in and around taverns, such as unprotected and unplanned sex or sexual assault.[1]
  - If someone buys alcohol for a woman at a tavern, there is the expectation that she will have sex with that person.[1]
  - Females get assaulted when they walk to and from shebeens.[1,3]
  - Alcohol is sold in the same shops that schools children buy their school lunch from.[1]



Other research[4] by the Western Cape government in Khayelitsha reports that:

- It takes 3-5 minutes to get to a liquor outlet in Khayelitsha.[4]
- Informal outlets are open for 14+ hours.[4]
- Shebeens have music and a vigorous atmosphere which attract youth.[4]
- 50% of violence-related injuries were influence by alcohol.
- Drinkers feel humiliated when the spend their money on alcohol and resort to violence.
- Youth celebrate the end of term by drinking and shebeens sell to <18's even during school hours.[4]
- There is an increase in women drinking, including mothers that come to shebeens with their children.

- Herrick et al (2014) found that shebeens provide venues for crime in the form of theft, violence and gender based violence and that shebeen patrons are at higher risk of unsafe sex and HIV infection.[2]

Sources: 1. Soul City (2017); 2. Herrick et al. (2014); 3. Consultations with alcohol experts; 4. Department of Community, Western Cape

CONSUMPTION PATTERNS | SUMMARY

1. A large proportion (42-49%) of South Africans (15+) abstain from alcohol during their lifetime.

2. Despite this, South Africa has a high adult (15+) APC rate (11L/capita/year) compared to international benchmarks. APC rate is even higher when restricted to drinkers only (27L/capita/year) – top 6% in the world.

3. South Africans who do drink, display hazardous patterns. 9.8% of adults (15+) report binge drinking in the last 30 days.

4. The high prevalence of **current drinking** in South African youth aged 13-19 years (32.3%) is concerning. In particular, **binge drinking** in youth is high (25.1% of 13 -19 year olds).

5. There is a shortage of data on the size of and drinking patterns in the informal sector but a number of reports suggest that a large portion of hazardous drinking occurs at or near informal outlets, both licensed and unlicensed shebeens. Binge drinking is common in the informal sector especially in townships, where low prices, accessibility and poor enforcement of under age drinking laws makes alcohol affordable and available for youths. There are high level of violence and gender-based violence near informal outlets, and higher risks of unsafe sex and HIV infection.

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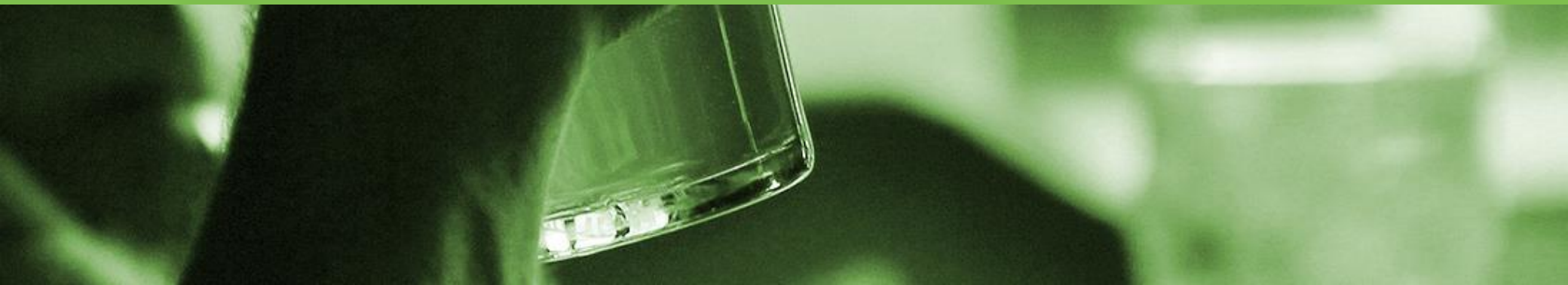


Alcohol is linked to medical, psychological, household and social harm.

DEFINITIONS IN THIS SECTION:

Term	Definition
Disability-adjusted life year (DALY)	Measure of disease burden expressed as the number of years lost due to ill-health, disability or early death
Alcohol attributable fraction (AAF)	Used to express the extent to which alcohol contributes to a health outcome – the proportion of a disease caused by a risk factor (in this case alcohol)
Relative risk (RR)	The ratio of the probability of an event occurring (for example, developing a disease) in an exposed group to the probability of the event occurring in a comparison, non-exposed group
Odds ratio (OR)	Measure of an association between an exposure and an outcome

ALCOHOL-RELATED DEATH AND DISABILITY ACCOUNTS FOR 4% OF THE GLOBAL BURDEN OF DISEASE:

1. Physical toxicity with direct and indirect effects on a wide range of organs and systems in the body, leading to chronic disease (cardiovascular disease, liver cirrhosis and depression).

2. Intoxication is linked to increased prevalence of infectious diseases as well as an increase in violence, road traffic accidents and other injuries.

3. Repeated exposure to alcohol, particularly repeated heavy drinking, results in alcohol dependence, which can propagate acute and chronic social problems, such as relationship difficulties, absenteeism, unemployment and early retirement.

Sources: 1. WHO (2004); 2. WHO (2010); 3. Alcohol and Public Policy Group (2013); 4. Babor et al.(2003)

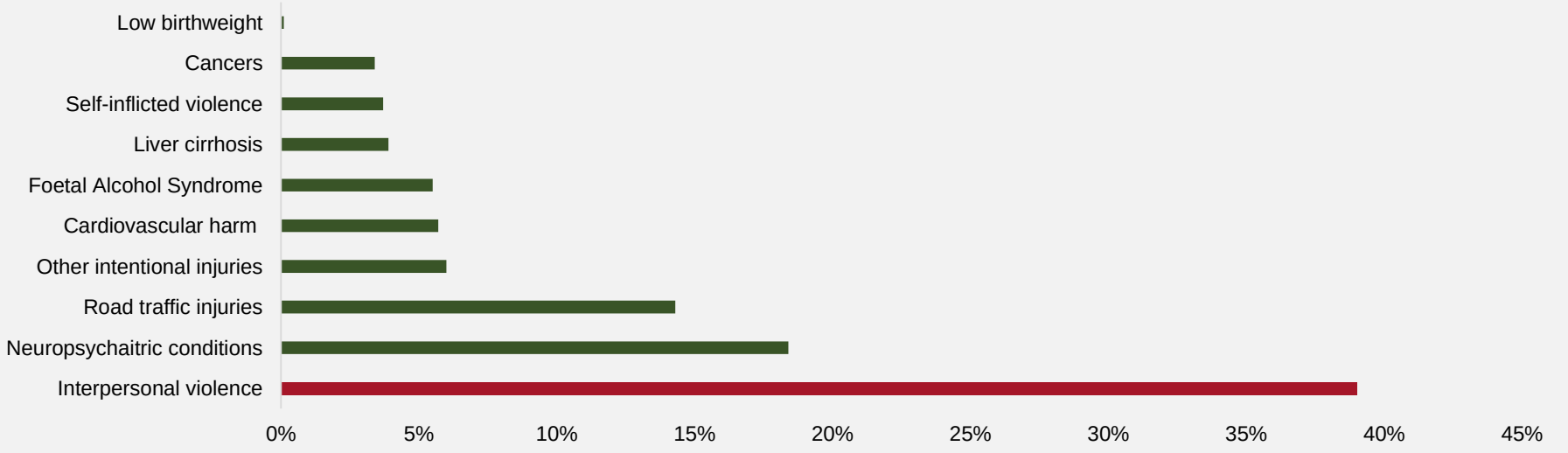
Between 6% to 9% of the South African disease burden is attributable to alcohol.

- The latest research (2009) suggests that 6% to 9% of the national disease burden measured in Disability Adjusted Life Years (DALYs) is attributable to alcohol.
- Alcohol carries a higher disease burden in men than women.
- The most common alcohol-related medical conditions in South Africa are: low birth weight; liver cirrhosis, foetal alcohol syndrome, neuropsychiatric diseases, HIV and TB.
- Alcohol-related interpersonal violence accounts for the large majority of DALYs (39%).

ESTIMATES OF ATTRIBUTABLE DALYS FROM ALCOHOL IN SOUTH AFRICA

Source	Males	Females	Average
Rehm et al. (2009)	10.0%	2.4%	6.3%
Budlender (2009), citing Rehm (2009)	14.5%	3.9%	9.2%
Schneider et al. (2007) with addition of infectious disease component from Rehm et al. (2009)	13.6%	3.9%	8.8%

Alcohol attributable DALYs for persons, South Africa (Schneider et al., 2007)



Sources: 1. DNA Economic (2011); 2. Schneider et al. (2007) 3. Rehm et al. (2009) 4. Budlender (2009) 5. Schneider et al (2007)

Alcohol consumption, especially binge drinking, is a risk factor for non-communicable diseases (NCDs), particularly for liver cirrhosis and neuropsychiatric disorders.

NCDs	Effect of increased alcohol consumption (Prevalence, risk ratios or odds ratios)	Alcohol Attributable Fraction %	DALYs attributable to alcohol in South Africa	Alcohol attributable deaths in 2000	Drinking patterns resulting in disease burden
Foetal Alcohol Syndrome	• Prevalence rates range from 29 to 290 per 1000 live births in South Africa, depending on the province Prevalence is particularly high in the Western Cape [1] • SA has 14 times global average of foetal alcohol disorders [2]	**100**	62 466	No data available	Drinking and heavy **binge drinking** during pregnancy
Liver cirrhosis	• Cirrhosis affects 10-20% of heavy drinkers [3] • Men have a 2.3 RR of dying from liver cirrhosis whereas the risk for women is 7.7 [4]	46.1	43 836	2 582	30g of absolute alcohol per day

Cardiovascular diseases	• Excessive binge drinking increases the risk for four major heart conditions [5]:
	  • Ischemic heart disease: OR:1.10
	  • Ischemic stroke: OR:1.22
	  • Non-ischemic stroke: OR: 1.22
	  • Hypertension RR:1.4
		8.2	64 137	6 200	Heavy **binge drinking**

Neuropsychiatric disorders **E.g. epilepsy and common mental disorders**	• There is a 3 fold increase in the risk of having a seizure due to an increased in alcohol intake [6]	44.8	270 513	1 936	51-100g alcohol/day
	• Depression is associated with a risk of heavy alcohol consumption [7]				Heavy **binge drinking**

Cancers	• The RR varies for each type of cancer and the amount of alcohol consumed. Significant associations are related to oesophagus and liver cancer [8]
	  • RR for oesophagus cancer: 2.21
	  • RR for liver cancer: 1.41
		23.7	38 526	3 217	50g alcohol/day

Sources: 1. Olivier et al. (2016); 2. Albert, E. (2017); 3. Rehm, J et al. (2012); 4. Zheng et al. (2015); 5. Mc Grady (2000); 6. Pryjmachuk (2011); 7. Dixit (2000); 8. Bagnardi (2001); 9. Matzopoulos (2005)

Alcohol consumption, especially binge drinking, is a risk factor for communicable diseases, such as tuberculosis and sexually transmitted infections.

Communicable diseases	Effect of increased alcohol consumption (Prevalence, risk ratios or odds ratios)	Alcohol Attributable Fraction	DALYs attributable to alcohol in South Africa	Alcohol attributable deaths in 2000	Drinking patterns resulting in disease burden
Tuberculosis (TB)	• The harmful use of alcohol increases the risk of TB three-fold, and is also a strong risk factor for poor TB treatment adherence [1] • The RR of contracting TB due to high alcohol intake is 2.94 [2] • Studies of the pharmacokinetics of isonizid (TB treatment) in the treatment of TB together with alcohol dependence have shown significant decreases in absorption of the drug and its accelerated metabolism after oral administration to heavy drinkers, leading to a shortened half life of the drug [2]	29	242 928	8 557	Heavy **binge drinking**
Sexually transmitted infections (STIs)	• Hazardous drinkers are 5.6 times more likely to have unprotected sex [3] • Problematic drinking is associated with an increased risk of STIs, and this risk is present for both men and women [4] • Female users are 1.95 times more likely to have any STI; female abusers are 3.58 times more likely to have any STI [5]	No data	No data	No data	Drinking and **binge drinking** and alcohol abuse

Sources: 1. Lonnroth, K (2008); 2. Rehm, J (2009); 3. Watson, R et al. (2012); 4. Cook RL (2005); 5. Ghebremichael, M et al. (2009); 6. Matzopoulos (2005)

Alcohol consumption, especially binge drinking, is a risk factor for contracting HIV, and is linked to poor adherence to antiretrovirals.

HIV	Effect of increased alcohol consumption (Prevalence, risk ratios or odds ratios)	Alcohol Attributable Fraction	DALYs attributable to alcohol in South Africa	Alcohol attributable deaths in 2000	Drinking patterns resulting in disease burden
HIV infection	• In drinkers there is an increased relative risk for being HIV positive of 1.6-2.0 [1] • Binge drinkers are twice as likely to acquire HIV, compared to drinkers [2]	4.5	172 765	7441	Heavy **binge drinking**
Adherence to antiretrovirals (ARVs)	• Drinkers are 50-60% less likely to be adherent, compared to abstainers (OR=0.548) [3] • Problem drinkers are 47% less likely to be adherent [3]	No data	No data	No data	Drinking and **binge drinking**

Sources: 1. Rehm, J and Parry, C (2009); 2. Baliunas (2010); 3. CS, Hendershot (2009); 4. Matzopoulos (2005)

Alcohol is responsible for a significant proportion of road traffic injuries and violent crimes.

Violence and trauma	Effect of increased alcohol consumption (Prevalence, risk ratios or odds ratios)	Alcohol Attributable Fraction %	DALYs attributable to alcohol in South Africa	Alcohol attributable deaths in 2000
Road traffic injuries	• An alcohol-impaired driver has 17 times the risk of being involved in a fatal crash than an unimpaired driver [1] • In South Africa, 57% of road-traffic accident deaths are associated with harmful alcohol use [2]	34.4 (unintentional injuries)*	162 350	6 166
Drownings	• The findings from the National Injury Mortality Surveillance System study showed that almost 43.6% of the drowning cases had positive blood-alcohol levels [3]		6 615	252
Suicide	• In the case of alcohol-related suicides, one in four of those who killed themselves were over the blood-alcohol limit of 0.05 g/100 ml [4]	42.6 (intentional injuries)*	42 235	1 674
Homicide and violence	• In South Africa, 44% of victims of interpersonal violence believed their attacker to have been under the influence of alcohol [4] • Research by the Medical Research Council shows that more than half the murders committed annually are alcohol-related [4]		441 405	12 741

**Includes additional intentional and unintentional injuries not mentioned in the table*

Alcohol induced violence and trauma injuries predominantly occur when blood alcohol levels are over the 0.05g/100ml limit

Alcohol also accounts for a increased of absenteeism in the workplace

Other	Effect of increased alcohol consumption (Prevalence, risk ratios or odds ratios)	Alcohol Attributable Fraction	Drinking patterns resulting in burden
Absenteeism	• 4-6% of work absenteeism is due to alcohol use [5]	4.5	Heavy, **binge drinking**

Sources: 1. WHO (2004), 2. Matzopoulos (2005), 3. NIMMS (2004), 4. WHO (2006)

The associated harms of drinking patterns differ in the formal and informal sectors.

Harms associated with drinking patterns in the formal sector are more likely to be:	Harms associated with drinking patterns in the informal sector
Non-communicable disease (cardiovascular disease, liver cirrhosis, cancers)	Injuries related to violence (especially gender-based violence)
HIV transmission	Injuries related to crime (homicide)
Injuries related to road traffic injuries	Infectious diseases (tuberculosis and sexually transmitted infections, including HIV)

Sources: 1. Soul City (2017); 2. Herrick et al. (2014); 3. Consultations with experts

Recent estimates of the national economic costs of alcohol range from R20.2 billion to R52.3 billion a year.

ESTIMATED COSTS FROM PREVIOUS STUDIES

Three recent studies have estimated the economic costs of alcohol abuse in South Africa.

1. In 2003, Parry et al. "conservatively estimated" these at R8.7 billion or 1% of GDP.
2. In 2010, Budlender estimated that the allocation by national and provincial government for expenditure related to addressing alcohol-related harms was R17 billion (public sector costs only).
3. In 2014, Matzolpolous et al. calculated the tangible financial cost of harmful alcohol use to be R37.9 billion, or 1.6% of the 2009 GDP.

METHODS AND LIMITATIONS OF THESE STUDIES

Parry et al. (2003)

- Costs were based on the % of GDP spent on alcohol related harms internationally.
- Costs calculated based on the methodology of a Canadian study.
- Questionable as whether findings from developed countries can be extrapolated to a South African context.
- Viewed as a conservative estimate.

Budlender (2009)

- Did not attempt to calculate the full cost of society to alcohol abuse, instead focused on government budget allocations.
- Provides an estimate of what government is actually spending on account of alcohol abuse.
- Omitted costs borne by local governments and individuals, this would have underestimated social costs.

Matzopolous et al. (2014)

- Reviewed international best-practice costing frameworks to provide costing definitions and dimensions.
- The total tangible costs of alcohol harm were estimated at 1.6% of the 2009 GDP.
- Including intangible costs, alcohol harm was estimated at 10-12% of 2009 GDP.

Applying average annual CPI, the three studies were adjusted into 2017 rands as follows:

Study	Cost in 2017 rands	Percentage of GDP in 2016
Parry et al.	**R20.2 billion a year**	**0.5%**
Budlender	***R26 billion a year (public only)**	**0.6%**
Matzolpolous et al.	**R52.3 billion a year**	**1.3%**

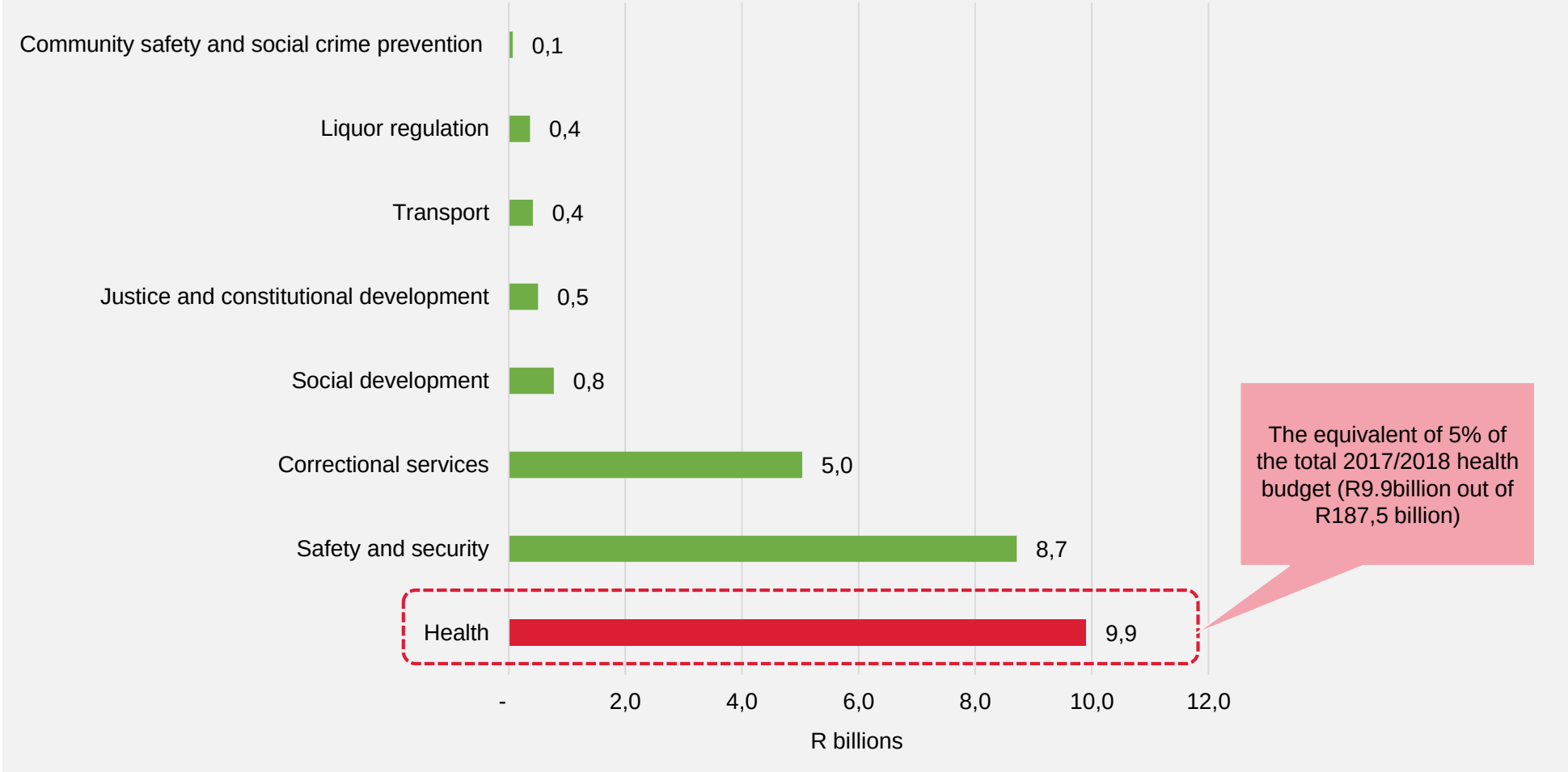
*Used in the model, details on next slide

EMOTIONAL COSTS ARE NOT QUANTIFIABLE IN RAND TERMS.

Sources: 1. Parry et al., (2003); 2. Budlender (2009); 3. Matzopolous et al (2014)

Large public sector costs are attributable to alcohol, especially health, safety and security, and correctional services. Health cost related to alcohol are 5% of total public health spending.

Total budget spending attributable to alcohol (adjusted to 2017 values)
Based on estimations by Budlender (2009)



Source: 1. Budlender et al. (2009), adjusted by Genesis Analytics, 2017

NATIONAL COSTS ASSOCIATED WITH ALCOHOL: SUMMARY

1. Alcohol-related death and disability accounts for 4% of the global burden of disease.

2. 6% to 9% of the national disease burden is attributable to alcohol. Alcohol has an impact on all aspects of the quadruple burden of disease.

3. Alcohol consumption, especially binge drinking, is a risk factor for NCDs, particularly for liver cirrhosis and neuropsychiatric disorders.

4. The impact and associated harms of drinking patterns in the formal and informal sector differ:
   a. Harms associated with drinking patterns in the formal sector are more likely to be NCDs (cardiovascular disease, liver cirrhosis, cancers), HIV transmission and injuries related to road traffic accidents.
   b. Harms associated with drinking patterns in the informal sector are more likely to be infectious diseases (TB, STIs) and injuries related to violence and crime.

5. Conservative estimates of the tangible costs of alcohol misuse in South Africa range from 20.2 billion to R52.3 billion or 0.5% to 1.6% of 2016 GDP. Intangible costs are far higher but not easy to quantify.
   a. Health costs account for the highest percentage of alcohol-attributable costs. At an equivalent of 5% of the total 2017/2018 health budget (R9.9billion out of R187,5 billion)

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The regulatory framework for alcohol is complicated. It is established in the Constitution and includes laws across all three tiers of government.

CONSTITUTION (1996) SECTION 104(1)(B)(II)

	National	Provincial	Municipal	ADVERTISING
Status quo				Industry self-regulation
Main acts	National Legislation regarding the manufacture and distribution of alcohol 1.2.1. The Liquor Act, No. 59 of 2003: 1.2.3. Liquor Products Act, No. 60 of 1989	provincial legislation regarding the retail of alcohol 1.3.1. Eastern Cape Liquor Act, (Act 10 of 2003) 1.3.2. Free State Gambling and Liquor Act, (Act 6 of 2010) 1.3.3. Gauteng Liquor Act, (Act 2 of 2003) 1.3.4. KwaZulu-Natal Liquor Licensing Act, (Act 6 of 2010) 1.3.5. Mpumalanga Liquor Licensing Act, (Act 5 of 2006) 1.3.6. Northern Cape Liquor Act, (Act 2 of 2008) 1.3.7. Western Cape Liquor Act, (Act 4 of 2008)	municipal legislation regarding planning, health and safety, and trading hours 8 metros / 44 districts / 207 local municipalities may have local requirements and by-laws	ARA code of conduct; BCCSA code of conduct; Internal companies' codes of conduct
Competency	Macro-manufacturing and distribution	Retailing of alcohol On-consumption ↔ Off-consumption	Retailing alcohol	Guidelines for alcohol advertising (see next slide)
Focus	Hours of trade, zoning restrictions, health and safety; abusive drinking	Hours of trade, zoning restrictions, health and safety; abusive drinking	Hours of trade, zoning restrictions, health and safety; abusive drinking	Content and some audience restrictions
Licensing authority	National Liquor Authority	Provincial Liquor Board	Municipality	Association for Responsible Alcohol Use (ARA)
Enforcement	SAPS; NLA and some joint actions with PLA	SAPS; PLA some joint actions with NLA	Metro enforcement; municipal inspection	ARA; peer pressure
Sanction	Criminal offence: Time to remedy; withdrawal of licence; fine or prison (never used)	Criminal offence: fine or prison Time to remedy; withdrawal of licence;	Municipality-specific	Warnings; withdrawal of ad; suspension of membership

REGULATORY FRAMEWORK | THE NATIONAL AND PROVINCIAL LIQUOR AUTHORITIES

Treat with caution – data limited due to poor response from liquor authorities

National Liquor Authority

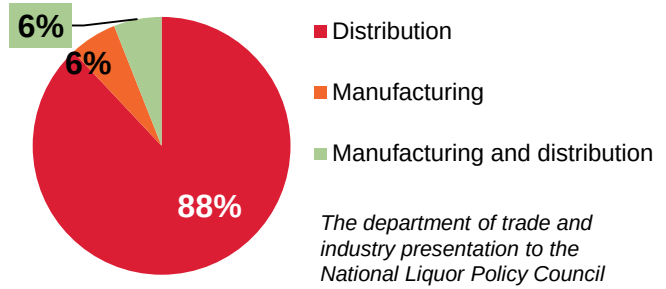
Overview of the NLA:

- The National Liquor Authority (NLA) was established in April 2004 in terms of the Liquor Act, 2003 and is located within the Consumer and Corporate Regulation Division (CCRD) of the dti.
- The authority is a regulatory body responsible for administering the National Liquor Act 2003, and charged with:
  - Regulating the *macro-manufacturing and distribution* (large-scale) of the liquor industry In terms of the National Liquor Act Regulations (2004), a macro-manufacturer is an entity that manufactures more liquor than the prescribed volume threshold of 100 million litres of beer, 50 million litres of sorghum beer (traditional African beer), 4 million litres of wine or 2 million litres of spirits annually.
  - Micro manufacturers below this threshold are required to register with provincial authorities.
  - Conducting inspections on manufacturing and distribution premises and checking suitability and compliance with the provisions of the Act;
  - Inspections and seizing any liquor that appears to have been manufactured contrary to the provisions of the Act.
- From time to time the NLA joins forces with provincial and municipal authorities, plus SAPS and SARS.

Provincial Liquor Authorities

- Part 'A' of Schedule 5 of the Constitution, 1996 provides for provincial government to promulgate and enact liquor legislation regarding the *retail* of liquor, and micro-manufacturing
- Liquor licences are issued to retail traders for on-consumption or off-consumption selling of liquor, and may overlap with municipal by-laws regarding zoning, trading hours and other conditions.
- From time to time the PLAs joins forces with national and municipal authorities, plus SAPS and SARS.
- Data on the issuing of provincial licences for retailing to on- and off- consumption is difficult to source. According to a dti report in 2013, in 2012/2013 the provincial liquor authorities issued about 56,298 licences (excluding Gauteng). By including an estimate for Gauteng based on population ratios, assuming that 10% of the licences are inactive, we estimate that there were in 2012/2013 about 64,168 licensed outlets nationwide.

It is estimated that the NLA had issued or renewed approximately 3,178* licences by June 2017. The majority (88%) of these licences are for the distribution of alcohol:



The department of trade and industry presentation to the National Liquor Policy Council

The composition of retail licences (on-and-off consumption) issued by provincial authorities for 2012/2013 (Gauteng estimated).

Province	Number of licences
Eastern Cape	8, 022
Free State	4, 684
Gauteng*	15, 000* (estimate)
KwaZulu Natal	10, 327
Limpopo	8, 678
Mpumalanga	6, 707
North West	6, 888
Northern Cape	1, 868
Western Cape	9, 124
Total	71, 298
Assume 10% dormant	7,129
Estimated total provincial licenses	**64,168**

Sources: 1. The Department of Trade and Industry, National liquor authority register, 2017; 2. The Department of Trade and Industry, Impact Assessment on the effectiveness of the Liquor, 2013; The Department of Trade and Industry, Legislation and Business Regulation.

There is complexity in enforcement

ISSUES ARISING

- The approach to retail regulation is different from province to province – complicating the enforcement of the liquor framework.
- There is some confusion in the regulatory framework as to the jurisdiction of national, provincial and local governments.
- Overlap in the legislation creates complexity and confusion in administering and enforcing the correct legislation, and high compliance costs.
- Liquor licences are issued to retail traders for on-consumption or off-consumption selling of liquor, which may include overlap with municipal by-laws regarding zoning, trading hours, and other conditions.
- Few provincial acts or municipal by-laws have specifically addressed the issue of informal liquor retailers, and indeed, the Data on the issuing of provincial licences for on- and off- consumption is difficult to find.
- From time to time the national provincial and municipal authorities conduct joint operations, along with SAPS and SARS.

National Liquor Authority

Provincial Liquor Authorities

National Service

Metropolitan Police

Sources: 1 The Department of Trade and Industry, Legislation and Business Regulation. 2 The Department of Trade and Industry, Impact Assessment on the effectiveness of the liquor

The present statutory framework carries heavy criminal sanctions for breach of the national and provincial laws.

	Trading without a licence	Drinking at off-consumption licensed outlet	Sale to under 18	Permit drunkenness	Produce or sell concoctions
Liquor Product Act, 1989	Fine or imprisonment of up to 5 years	Fine or imprisonment of up to 6 months	Fine or imprisonment of up to 5 years	Fine or imprisonment of up to 6 months	Fine or imprisonment of up to 6 months
National Liquor Act 59, 2003	–		Fine not exceeding R1m, or imprisonment for up to 5 years		
Liquor Act 2003, Eastern Cape	Fine or imprisonment of up to 3 years or both	Fine or imprisonment of up to 3 years or both	Fine or imprisonment of up to 3 years or both	Fine or imprisonment of up to 1 year or both	
Liquor Act 2007. Free State	A fine or imprisonment for up to 5 years or both	A fine or imprisonment for up to 5 years or both	A fine or imprisonment for up to 5 years or both	A fine or imprisonment for up to 5 years or both	A fine or imprisonment for up to 5 years or both
Liquor Act 2003, Gauteng	Fine not exceeding R100 000, or imprisonment for up to 10 years or both	Fine not exceeding R100 000, or imprisonment for up to 10 years or both	Fine not exceeding R100 000, or imprisonment for up to 10 years or both	Fine not exceeding R100 000, or imprisonment for up to 10 years or both	Fine not exceeding R100 000, or imprisonment for up to 10 years or both
Liquor Licensing Bill 2009, KwaZulu Natal	A fine or imprisonment for up to 5 years or both	A fine or imprisonment for up to 5 years or both	A fine or imprisonment for up to 5 years or both	A fine or imprisonment for up to 5 years or both	
Liquor Bill 2007, Limpopo	Fine or imprisonment or both	Not specified in bill	Not specified in bill	Not specified in bill	Not specified in bill
Liquor Licensing Act 2009, Mpumalanga	A fine or imprisonment for up to two years or both	A fine or imprisonment for up to two years or both	A fine or imprisonment for up to two years or both	A fine or imprisonment for up to two years or both	A fine or imprisonment for up to two years or both
Liquor Bill 2008, North West*	A fine or imprisonment for up to 10 years or both	Fine not exceeding R500 000, or imprisonment for up to 2.5 years or both	Fine not exceeding R1m, or imprisonment for up to 5 years or both	Fine not exceeding R100 000, or imprisonment for up to 6 months or both	Not specified in bill
Liquor Act 2008, Northern Cape	A fine or imprisonment for up to 10 years or both	A fine or imprisonment for up to 10 years or both	A fine or imprisonment for up to 10 years or both	A fine or imprisonment for up to 10 years or both	A fine or imprisonment for up to 10 years or both
Liquor Act 2008, Western Cape	Fine not exceeding R1m, or imprisonment for up to 5 years or both	Fine not exceeding R500 000, or imprisonment for up to 2.5 years or both	Fine not exceeding R1m, or imprisonment for up to 5 years or both	Fine not exceeding R100 000, or imprisonment for up to 6 months or both	

On paper there are strong laws in place: are they well enforced in practice?

Source: 1. The Department of Trade and Industry, Impact Assessment on the effectiveness of the Liquor, 2013

How effective is enforcement of alcohol laws?

Treat with caution – data limited due to poor response from liquor authorities

IT IS DIFFICULT TO ANSWER THIS QUESTION ACCURATELY FOR TWO REASONS:

1. The plethora of laws and diversity of national, provincial and local government enforcement agencies as well as SAPS and SARS make for disjointed information gathering;
2. Poor response from provincial authorities to requests for data and consultations in the limited time frame.

As a result, the study can only rely on international comparison, qualitative research, and basic extrapolations based on the limited information available to derive basic indicators of effective enforcement – hence the orange border around this section – treat with caution.

EVIDENCE ON THE EFFECTIVENESS OF ENFORCEMENT:

1. ***International standards:*** The international World Internal Security Police Index (WISPI) ranks South Africa 89th out of 127 countries for effectiveness of policing (as a proxy for effectiveness of enforcement of alcohol laws) with an index of 0,49 (where 1 is perfect policing and 0 is no policing) – see next slide.
2. ***Anecdotal views:*** There is a widespread perception amongst stakeholder groups, including industry, public health officials and academics, NGOs, and alcohol experts that enforcement is relatively weak. While there has been an improvement in the time taken in the issuing of licences, especially from the NLA, there is widespread perception that the enforcement agencies are spread too thin to effectively monitor and enforce the laws, especially in the unlicensed informal sector.
3. ***Consultation with NLA officials*** confirm the NLA inspectorate "faces challenges" with capacity.
4. ***Consultations with provincial officials*** from Western Cape confirm that the inspectorate capacity to enforce liquor laws is "hugely inadequate".
5. ***Inspector to licence ratio (national):*** In 2016/2017, the NLA had 6 inspectors to perform the monitoring and inspection functions for approximately 3,178 licenses, an inspector to licence ratio of 1:530.
6. ***Inspector to licence ratios (provincial (WC)):*** In 2017 the WCLA had 8 inspectors to monitor 8, 578 licenses. Adding an estimate of unlicensed outlets the inspector to total outlets ratio is 1:3277 - see table below.
7. ***The role of SAPS:*** The NLA and provincial liquor authorities therefore have to rely heavily on the assistance of SAPS in monitoring and inspection. The table on slide 65 illustrates statistics from SAPS Annual Reports enforcement actions on unlicensed trading outlets (2012-2015). In 2012 SAPS reported closing 74,547 unlicensed and illegal outlets – which indicates good enforcement capacity. However, by 2015 this number had fallen by 72% to 20,126
8. ***Criminal convictions:*** The SAPS data presented on slide 65 suggest the preferred sanction is closure of the illegal outlet and confiscation of the alcohol. No data was available on criminal convictions. However, national officials reported that to their knowledge there had been **no criminal convictions in the recent past.** Also two recent criminal prosecutions in the WC stood out as the "exception rather than the norm."

	Licensed outlets	Unlicensed outlets (estimate*)	Inspectors	Inspector/ licence ratio	Inspector/ unlicensed ratio	Inspector/ total outlets ratio
Provincial (WCLA as a proxy)	8,578	17,640	8	1:1072	1: 2205	1: 3277

Note: Using research in Khayelitsha as a proxy for the WC: Khayelitsha*: total outlets 1044 (100%) Unlicensed 874 (83,72%) Licensed 170 (16,28%);* ***Western Cape:*** Licensed outlets*: 8578 – at same ratio as Khayelitsha would be 44,101 unlicensed outlets; adjust to WC at 40% = 17,640 unlicensed outlets.* ***Triangulate*** *against of nationwide total of 150,000 unlicensed outlets (Fieldgate, 2003) = 11.7% of total;* ***Triangulate*** *to Western Cape population 11.58% of SA population*

Sources: 1. The Department of Trade and Industry, National liquor register, 2017; 2. The Department of Trade and Industry, Impact Assessment on the effectiveness of the Liquor, 2013; The Western Cape Liquor Authority,

International policing benchmarks show policing effectiveness (as a proxy for enforcement of liquor laws) in South Africa to be weaker than in a selection of developed countries.

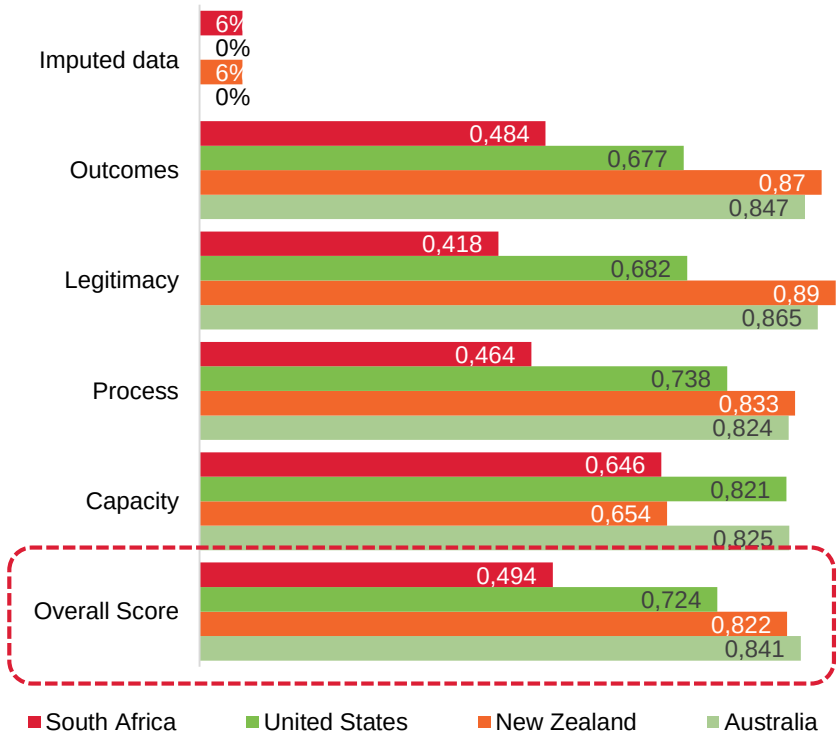
Policing

International Benchmark: The World Internal Security Police Index (WISPI)

- The WISPI is a global assessment that measures the ability of police institutions worldwide to render services.
- It is a measure of the ability of police to **realise security within society and safety of its members,** including dealing with crime.
- The index ranks 127 countries based on 16 indicators across four domains: **capacity, effectiveness, legitimacy and outcomes.**
- **The South African performance is compared to the United States, New Zealand and Australia.** These countries are selected because the LDA was amended in all three – and this intervention was effective in cutting youth drinking because of strong levels of enforcement.

- **Capacity –** level of resources Indicators are the number of police, internal security officers, armed forces & private security per 100 000 people as well as prison capacity.
- **Legitimacy** – does the public view of security providers, particularly the police.
- Indicators are due process of law and rights of the accused, respondents of confidence in the police, government officials in the police and military do not use public office for private gain and the use of force by government against its own citizens.
- **Effectiveness** – are resources used effectively.
- Indicators are control of corruption, criminal justice effectiveness, bribe payments to police and underreporting.
- **Outcomes –** current threats to internal security: high levels of violent crime for instance are indicative of a lack of police control over public spaces.
- Indicators are the number of international homicides per 100 000 people, violent crimes, terrorism and public safety perception.

The World Internal Security and Police Index for South Africa, United States, New Zealand and Australia



- A score of **1** is perfect policing, 0 is no policing
- US ranked 33 out of 127, **South Africa ranked 89th out of 127**
- 6% of SA data is missing and is imputed

This suggests South Africa has weaker policing – and as a proxy for enforcement of liquor laws – than US, Australia and New Zealand. These countries are relevant because they changed the LDA with success in lowering youth drinking.

Source: 1. World Internal Security & Police Index, 2016

There appears to have been a rapid decline in effectiveness SAPS's enforcement of alcohol laws.

The NLA and provincial liquor authorities rely on the assistance of SAPS in monitoring and inspecting illegal liquor outlets. The table below shows statistics from SAPS on the number of enforcement actions that were conducted with the objective of reducing the supply of liquor in communities from unlicensed or illegal trading outlets (2012-2015).

	2012	2013	2014	2015
Unlicensed/illegal liquor premises	-	74, 793	37, 490	20, 015
% Change			-49.89%	-46.61%
Unregistered/illegal distributors of liquor	-	-	368	111
Unregistered/illegal macro/micro manufactures of liquor	-	2, 154	121	-
Closure of identified illegal liquor outlets	74, 547	76, 947	37, 979	20, 126
Volumes of liquor confiscated (*In liters of liquor*)	1,824,865,821	1,792,469,768	1,540,992,583	1,228,662,662
% Change		-1.78%	-14.03%	-20.27%
SAPS members trained as liquor inspectors	267	75	100	101

There was a rapid decline in effectiveness of alcohol policing from 2012 to 2015

The available evidence points to low and declining capacity of law enforcement agencies to enforce the alcohol laws effectively.

Sources: 1. The Department of Trade and Industry National Liquor Register; 2. the Department of Trade and Industry, Impact Assessment on the effectiveness of the Liquor, 2013; 3. The South African Police Service Annual Reports 2012 - 2016

Alcohol advertising is self-regulated by an industry body, the Association for Responsible Alcohol Use.

The Association for Responsible Alcohol Use (ARA) was established in 1989 as a non-profit organisation. It aims to reduce the harms associated with alcohol use by 1) preventing alcohol misuse and 2) promoting responsible use. Members include SAB Inbev, SALBA and VinPro.

ARA has developed an industry code to guide alcohol advertising. These are the main guidelines:

Commercial communication must:

- Be legal, decent, honest and truthful and conform to accepted principles of fair competition and good business practice.
- Be prepared with a due sense of social responsibility.
- Demonstrate sensitivity in regard to issues of culture, gender, race and religion.
- Not be unethical or otherwise impugn human dignity or integrity.
- Not employ themes, images, symbols or figures which are likely to be considered offensive, derogatory or demeaning.
- Comply with all regulatory requirements.

Commercial communication may not:

- Encourage irresponsible, risky or excessive drinking.
- Present abstinence or moderate consumption in a negative light.
- Appeal to persons <18 years or have actors drinking if they are <25 years or show <18 year olds drinking / intending to drink.
- Present alcohol consumption as a sign of success or social acceptance, or as sexually seductive, or as a curative substance or performance enhancer.
- Include pregnant women.
- Associate alcohol with aggression, violence or drugs.

Other

- **TV/radio:** Commercial communication may not be directly before, after or during a children's programme.
- **TV 70/30 rule**: Programmes with more than 30% viewership/listenership <18 cannot have alcohol advertisements (this also applies to sporting events and cinemas); and may not be aired between 2pm-5pm (Mon-Fri) and before 12pm (Sat-Sun).
- **TV/radio/billboards/cinema/print/outdoor:** Must include the statement "Not for sale to persons under the age of 18".
- **Radio**: Cannot be on programme profiles with an audience <15 years; no airing 6am-9am and 2pm-5pm (Mon-Fri) and 8am-12pm (Sat-Sun).
- **Outdoor**: No alcohol billboards may be within 200m of schools/community centres/churches (or within 500m for super-sized billboards).

Sources: 1. ARA; 2. Advertising Standards Authority

ARA Self-regulatory guidelines (continued)

ARA has developed an industry code to guide alcohol advertising. These are the main guidelines:

Promotions may not:

- Be directed at <18 events.
- Encourage irresponsible, risky or excessive drinking.
- Be held as “tastings” if food is not available.
- Be held on campuses without university approval.
- Increase consumption over a limited time (e.g. “two for the price of one” specials).

Packaging restrictions:

- “Practical quality that ensures alcohol is consumed responsibly and that there is no doubt that the product contains alcohol.”
- “Cannot promote the idea of alcohol as a bulk commodity (though it can improve the convenience of storage, transport and serving).”
- Labels cannot make use of colloquial terms or convey sexual innuendo.
- Alcohol strength must be written as a guidance to the consumer.
- May not be directed to <18 years.

Sanctions

1. Any interested party may submit a complaint in terms of the ARA Code for a current advertisement (published within the last 90 days).
2. The Respondent will be given 14 days to respond to complaint, and if they fail to do so, the ARA panel may consider whether the advertisement is in breach of the ARA code.
3. Advertisements, packaging or promotions, found to be in breach of the Code are caused to be **withdrawn or ceased** immediately.
4. If the Respondent chooses to ignore the ARA Panel ruling, ARA may **terminate** the Respondent’s membership and consequently issue a public statement to indicate that the Respondent had its membership terminated, with reasons for the termination.

Conclusion: the ARA Code has strong content restrictions to protect youths, however, the sanctions for breach appear minimal: a stronger review system, including public health experts, and legislative backing would improve the effectiveness of the Code.

Sources: 1. ARA; 2. ASA

The self-regulating model has pros and cons.

Pros of self-regulation	Cons of self-regulation
Industry takes responsibility for its own actions.	Membership is voluntary; the code only applies to members.
Less public expenditure.	Not supervised or enforced by the government.
Framework is more flexible and better adapted to market requirements (Romanian Advertising Council, 2009).	Content is not vetted by an independent body to ensure members are behaving reliably; thus public may be exposed to inappropriate advertisements before they are withdrawn.
Submitting complaints is easier for consumers and cost-free (Romanian Advertising Council, 2009).	There is advertising expertise but no public health expertise on ARA, which would have wider input on harms.
The ARA Code goes further in restricting advertising than some of the regulatory proposals. The industry asserts that according to global benchmarking these are stronger than global norm (not tested in this research).	Sanctions for breach are not clear. Appear to amount to censure, withdrawal of advertisement, and potentially withdrawal of membership. Consultations suggest this has never occurred.
Industry organisations generally report positive experiences with self regulation (ELSA project).	Self-regulation for alcohol advertising and promotion does not protect young people against exposure to alcohol commercials.(De Bruijn et al., 2012) Youth are specifically targeted for alcohol marketing (WHO, 2010) Low regard for the large underage proportion of the audience within alcohol marketing campaigns, beyond including small print “Not for sale to persons under the age of 18”. (Chen et al., 2005).
World-wide, the most common approach has been for government to rely on alcohol industry self-regulation (WHO, 2014).	Reviews of the literature on the effectiveness of self-regulation in reducing youth exposure or limiting problematic content have concluded that existing self-regulatory systems do not meet their intended goal of protecting vulnerable populations from alcohol marketing (Noel et al.2017; Sacks et al., 2007) We could not locate data on the breaches of the ARA code in South Africa. A study in other African countries by The Monitoring Alcohol Marketing Practices in Africa (MAMPA) found that more that 25% of all alcohol monitored advertisements were in violation of standards (countries evaluated included Malawi, Ghana, Kenya, Nigeria, Uganda, Gambia and Namibia). In this study, the most common violation was against “the effect of alcohol” suggesting that alcohol can enhance attractiveness / remove social and sexual inhibitions.

Sources: 1. DNA Economics (2014); 2. Robaina et al (2017), 3. Caswell (2011) 4. De Bruijn, et al., (2012); 5. Chen et al., (2005); 6. Anderson et al., (2009); 7. Romanian Advertising Council, (2009); 8. Endel (2017); 9. WHO, 2014; 10. Noel et al. (2017); 11. Sacks et al. (200&)

A summary of benefits and costs of alcohol in the status quo

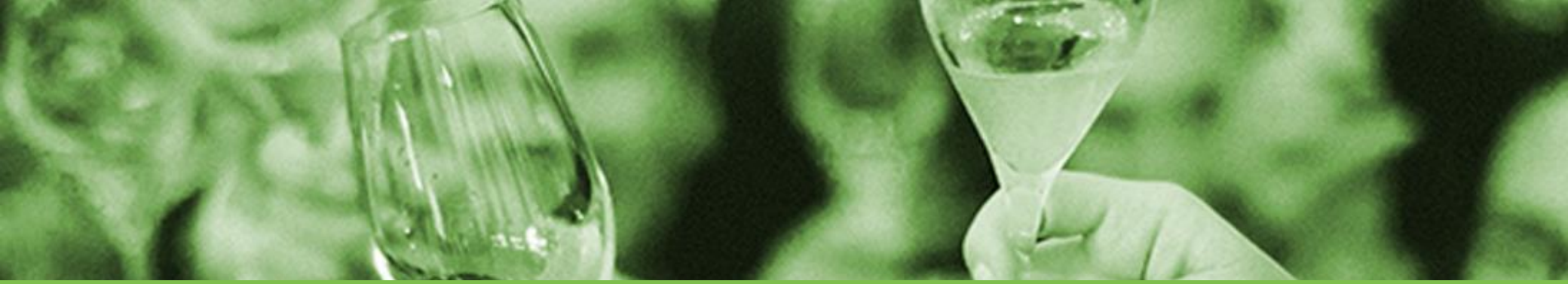
Economic benefits and social positives

- Alcohol consumption per capita has been falling gradually for five years.
- Abstention rates are high (66% of adult population).
- Many responsible citizens drink moderately deriving high social, culinary and leisure benefits.
- Alcohol industry employs 41,177 people directly, and supporting another 244 333 jobs in the economy – in an economy of high unemployment.
- In 2016 the sale of alcohol derived revenues of between R100bn to R136 billion
- Excise tax contribution of 1.9% of total tax to the fiscus.
- Consumer choice and consumer information is high, improving efficiency of the market.
- Provides ±5% of revenue to total revenue to ATL advertising industry (plus BTL expenditure which is not known).
- Benefits to SABC, eTV, MultiChoice and other media owners.
- Alcohol consumption per capita has fallen in recent years.

Economic costs and social negatives

- High levels of consumption per capita by international standards, with exceptionally high levels of consumption per drinker by international standards
- High levels of adult binge drinking.
- Concerning levels of early initiation in children and high levels of youth binge drinking.
- Large informal retail sector, which is under-researched and likely under-policed.
- Seemingly poor level of enforcement of under age drinking laws
- Hazardous drinking strongly linked to medical harm (especially FAS, liver cirrhosis) and neuropsychiatric disorders.
- A risk factor for communicable diseases, such as tuberculosis, sexually transmitted infections, HIV, and poor adherence to ARVs.
- Hazardous drinking linked to social harms including violence, gender-based violence; crime and traffic accidents and deaths.
- Estimates of tangible costs to economy of R20 billion-R52 billon a year [estimated at 0.5% to 1.3% of GDP] plus intangibles.
- While there is a strong advertising code in place, questions have been raised about strength of sanctions for breach.

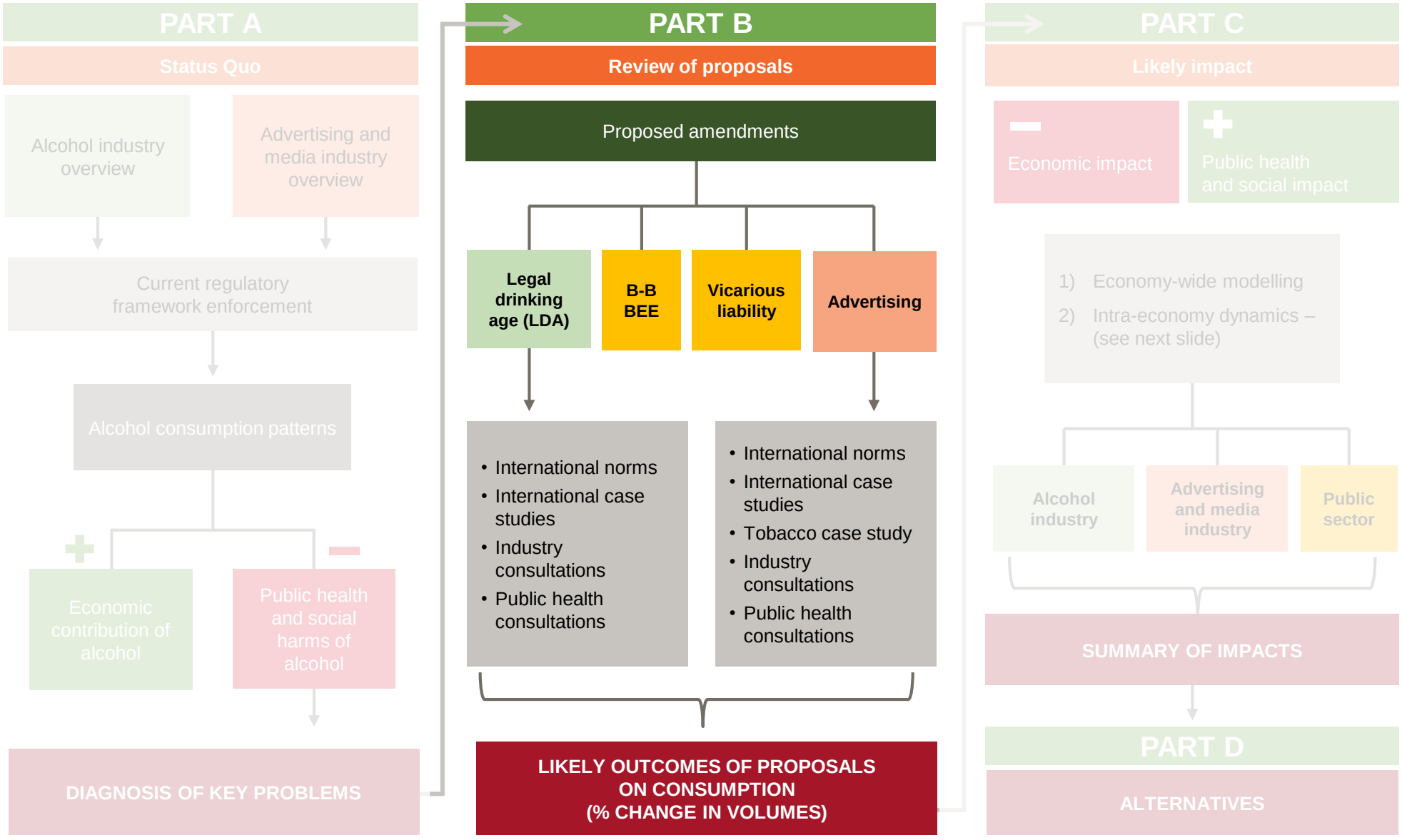
Regulation should seek to minimise effect on economic benefit, while minimising health and social costs



PART B

Proposals and likely impact on consumption

CONCEPTUAL APPROACH TO THE STUDY



DIAGNOSED POLICY GOALS LINKED TO PROPOSED INTERVENTIONS

Diagnosed social problem	Likely reasons for problem	Proposed regulatory interventions				
		Restrict advertising	Raise LDA to 21	Vicarious liability	B-BBEE clause	Restrictive Zoning
1 ADULT BINGE DRINKING HABITS	• Socially acceptable. • Alcohol is easily accessible. • Alcohol is relatively affordable. • Boredom – lack of work and activities. • Unlicenced retail not well policed.	✓		✓		✓
2 EARLY TAKE UP OF DRINKING AND YOUTH BINGE DRINKING	• Socially acceptable. • Alcohol is readily accessible. • Alcohol is relatively affordable. • Peer pressure and teen insecurities. • Not enough community involvement, or youth activities.	✓	✓	✓		✓
3 UNDOCUMENTED SHADOW ECONOMY – HIGH LEVELS OF UNLICENSED RETAIL	• Weak enforcement of licencing laws. • Retailers can “loop-hole” private off-consumption rules. • Weak enforcement of under age drinking laws • At some point, some companies and distributors are selling to unlicensed outlets.			✓		
4 LOW LEVELS OF TRANSFORMATION IN ALCOHOL INDUSTRY	• 80% of the biggest companies are multinationals • Traditionally white owned • Scorecards for main manufacturers and retailers average 6.3				✓	

PROPOSED AMENDMENTS TO THE NATIONAL LIQUOR ACT:
Increase the legal drinking age from 18 to 21

Amendment of section 10 of Act 59 of 2003

3. Section 10 of the principal Act is hereby amended by –

(a) the substitution for the heading of the following heading:

"Prohibition of supply of liquor and methylated spirits to [minor] persons under the age of twenty one (21);".

(b) the substitution for subsection (1), (2), (3), (4) and (5) of the following subsections respectively:

"(1) A person must not sell or supply liquor or methylated spirits to a [minor] (a) person under the age of twenty one (21).".

(2) Despite subsection (1), the parent, adult guardian of a [minor] person under the age of twenty one (21) or a person responsible for administering a religious sacrament, may on occasion supply to [that minor] such a person, such [a] moderate quantity of liquor to be consumed by [the minor] such a person in the presence and under the supervision of that parent, guardian or other person;

(3) A person must request that a formal form of identification be produced [take reasonable measures to determine accurately whether or not a person is a minor] to verify whether the person is under the age of twenty one (21), before selling or supplying liquor or methylated spirits to [that] such person;

(4) A [minor] person under the age of twenty one (21) must not make a false claim about his or her age in order to induce a person to sell or supply liquor or methylated spirits to him or her;

(5) A person must not make a false claim about the age of a [minor] person under the age of twenty one (21) in order to induce a person to sell or supply liquor or methylated spirits to [the minor] such a person;".

(c) the substitution in subsection for the words preceding paragraph (a) of the following words:

"(6) Subject to section 43 of the Basic Conditions of Employment Act, 1997 (75 of 1997) a [minor] person under the age of twenty one (21) may be employed to or conduct business in –

(a) [produce] production of liquor;

(b) Import of liquor; or

(c) supply of liquor to any person."

Source: 1. Minister of Trade and Industry (2017)

PROPOSED AMENDMENTS TO THE NATIONAL LIQUOR ACT:
Introduce alcohol advertising regulations

Amendment of section 9 of Act 59 of 2003

2. Section 9 of the principal Act is hereby amended by –

(a) the substitution for subsection (1) of the following subsection:

"(1) A person must not advertise –

(a) any liquor or methylated spirits –

(i) in a false or misleading manner;

(ii) in a manner intended to target or attract a [minor]person under the age of twenty one (21);

(iii) which depict a person under the age of twenty one (21) in an act of consuming liquor; or

(iv) with content which has images or icons that have unique appeals to persons under the age of twenty one (21).".

(b) the insertion after subsection (2) of the following subsections:

"(3) The advertisement of liquor is prohibited in the following:

(a) billboards placed less than hundred (100) meters away from educational institutions, junctions, street corners or traffic circles;

(b) unsolicited short message service (SMS), multi-media messaging service (MMS), fax or internet pop-up;

(c) the distribution of pamphlets containing liquor advertisement;

(d) in and around cinemas and theatres;

(e) company and delivery vehicles of registrants; or

(f) movies, radio and television airing beyond the time slots, as prescribed by the Minister.

(4) No contest, competition or recreational event may be conducted to promote or aimed at promoting any liquor product or brand.

(5) The liquor advertisement and marketing material shall reflect the harmful effects of liquor abuse, as prescribed by the Minister.

(6) The Minister may, after consultation with the Council, relevant government departments and municipalities as the case may be, prescribe more restrictions on the provisions of section 9.

(7) Any person who contravenes the provisions of section 9, commits an offence."

Source: 1. Minister of Trade and Industry (2017)

PROPOSED AMENDMENTS TO THE NATIONAL LIQUOR ACT:
Introduce vicarious liability for manufacturers and distributors who sell to unlicensed persons

Insertion of section 34A of Act 59 of 2003

Vicarious/extended liability

The manufacturer or distributor who distributes liquor to an unlicensed person shall be jointly and severally liable for:

a) any harm or unlawful conduct caused wholly or partly as a consequence of the supply of liquor to the unlicensed person;

b) death of, or injury to any natural person; or

c) any loss of, or physical damage to any property, irrespective of whether it is movable or immovable.

(2) The manufacturer or distributor who distributes liquor to an unlicensed person shall be jointly and severally liable for any harm contemplated in subsection 1 above, irrespective of whether the harm resulted from negligence on the part of the manufacturer or distributor, as the case may be.

(3) The unlicensed person who sells liquor to any person, shall be jointly and severally liable for any harm contemplated in subsection 1 above, irrespective of whether the harm resulted from the negligence on the part of such person.

(4) The manufacturer or distributor who contravenes the provisions of this Act and the norms and standards, by supplying liquor to the retail seller -

a) who sells to persons under the age of twenty one (21); or

b) who keeps the liquor products and sells to already intoxicated persons, shall be jointly and severally liable for -

i. any harm or unlawful conduct caused wholly or partly as a result of the supply of such liquor to the retail seller; and

ii. for death of, or injury to any natural person.

(5) The manufacturer or distributor and the unlicensed person contemplated in this section shall be guilty of an offence where the liquor product found in the unlicensed premises is linked to the manufacturer or distributor.

PROPOSED AMENDMENTS TO THE NATIONAL LIQUOR ACT:
B-B BEE provisions

Amendment of section 13 of Act 59 of 2003

(a) the substitution in subsection (1) for paragraph (a) of the following paragraph:

"(1) If the [Minister] National Liquor Regulator is required to register an application in terms of section 12, the [Minister] National Liquor Regulator must further consider the application, relating to the following criteria:

(a) **commitments made by the applicant in terms of black economic empowerment**;] The compliance with the Broad-Based Black Empowerment level as prescribed by the Minister;";

(b) the insertion after subsection (1) of the following subsection:

"(1)(A) The Minister shall prescribe the Broad-Based Black Economic Empowerment level of compliance to be met by registrants.

(B) Registrants must –

(i) ensure compliance with the prescribed level for Broad-Based Black Economic Empowerment to the National Liquor Regulator in the prescribed manner;

(ii) remain compliant with the prescribed level for the duration of the registration with the National Liquor Regulator.".

The National Liquor Regulator must cancel the registration, if the registrant -

(a) fails to meet the Broad-Based Black Economic Empowerment level of compliance prescribed by the Minister in terms of the Act; or

(b) fails to remain compliant with the Broad-Based Black Economic Empowerment prescribed level after being issued with the compliance notice.

Table of Contents

Assessing the likely effect of a change in LDA

- International norms
- Regional analysis (LDA v consumption)
- International LDA change case studies
- Verbatim quotes
- Best estimates for South Africa

Does a change in LDA impact consumption levels? Seven methods are used:

1. **Method 1)**
   Consider global norms of LDA and assess whether South Africa is within global norms;

2. **Method 2a)**
   Look for a relationship between LDA and levels of consumption globally;

3. **Method 2b)**
   Cross-sectional analysis of average alcohol consumption per regional LDA yields;

4. **Method 3a)**
   Consider instances where LDA was changed (either upwards or downwards) where the impact was assessed and documented on youth drinking;

5. **Method 3b)**
   Consider instances where LDA was changed (either upwards or downwards) where the impact was assessed and documented on drunk driving and traffic accidents;

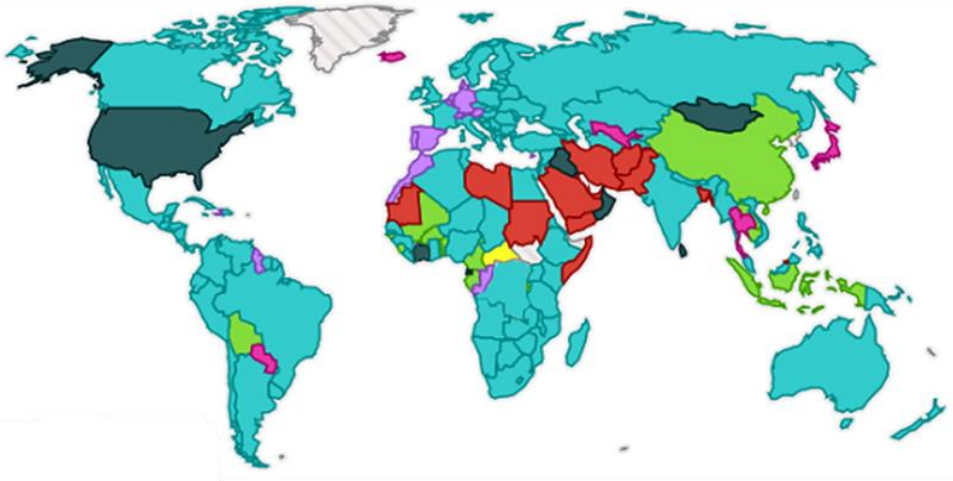
6. **Method 4)**
   Consult with SA and international health and alcohol experts;

7. **Method 5)**
   Consult with alcohol companies.

METHOD 1: South Africa's LDA is within global norms.
METHOD 2A: There is no observed relationship between LDA and consumption levels.

Method 1) Compare SA to global norms and 2) Compare alcohol consumption rates across countries with different LDAs (cross-sectional analysis)

Global minimum legal drinking age (LDA)[1]



MLDA	None	10-15	16-17	18-19	20	21	Illegal
Countries	19 (10%)	2 (1%)	21 (11%)	115 (61%)	5 (3%)	12 (6%)	16 (8%)

Method 1: This analysis shows that South Africa's LDA of 18 is within global norms.

Method 2: Significant variation in consumption is observed across countries, even within the LDA category of 18-19 years. ***There is no observed relationship from this between LDA and consumption levels***. Therefore, a deeper regional analysis was undertaken (see next slide).

Method 3) Review and analyse literature in countries that have either increased or decreased the LDA for impact on a) consumption and b) drunk driving and traffic accidents

Few countries have changed their LDA, however, changes in the USA, Australia and New Zealand provide an opportunity for analysis.

USA

1933: Post-prohibition, most states set LDA at 21 years (voting age).

1969-1976: 30 states lowered their purchase age, generally to age 18.

1976-1983: Several states raised the purchase ages to 19 (or, less commonly, 20 or 21), in part to combat drunk driving fatality.

1984: Congress passed the National Minimum Drinking Age Act - required states to raise the ages for purchase and public possession to 21 years.

Australia

Early 1900s: four states set alcohol purchase ages of 18 years, and four set ages of 21 or 20

1970-1974: four states changed the alcohol purchase age to 18 years

New Zealand

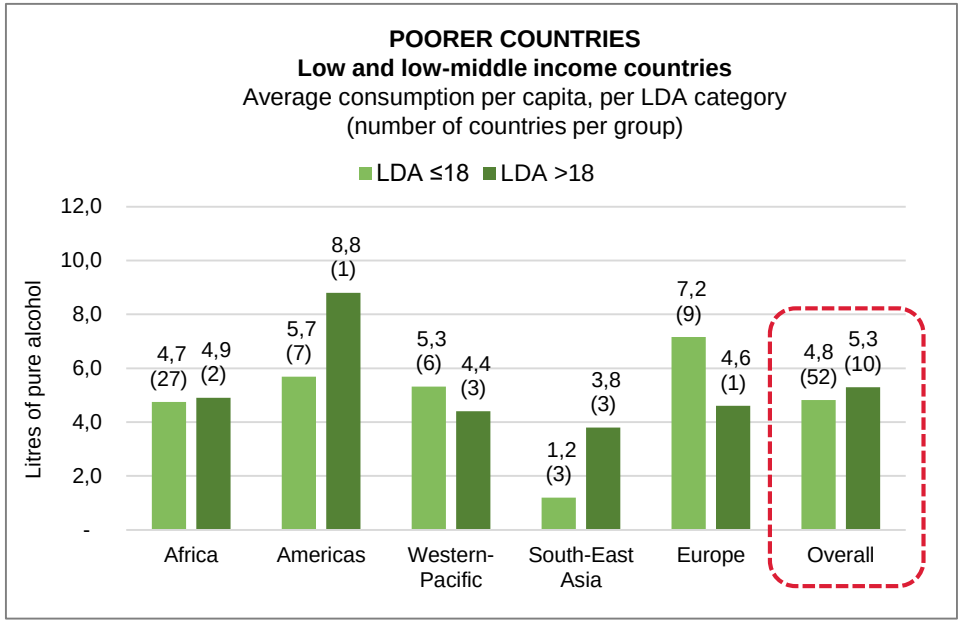
1999: alcohol purchase age limit reduced from 20 to 18 years

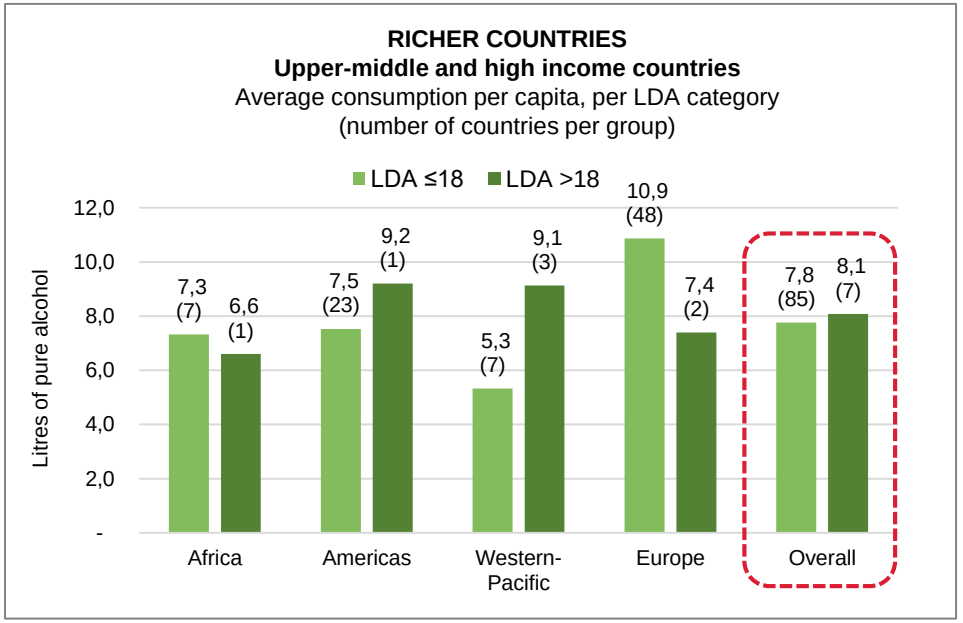
Note: No developing countries have changed their LDA. We were only able to locate literature from developed countries.

Source: 1. WHO Global Status Report on Alcohol and Health (2014)

METHOD 2B: Cross-sectional analysis of average alcohol consumption per regional LDA yields inconclusive results.

It is difficult to draw a strong correlation between LDA and alcohol consumption by using cross-sectional data for countries with different contexts and cultures (even when data is disaggregated by region and income group).





Excluded from this analysis: i) Eastern Mediterranean countries, ii) countries with no LDA or where alcohol is illegal, iii) countries missing data on consumption.

CONCLUSIONS FROM THIS ANALYSIS

- Total alcohol consumption is lower in poorer countries than richer countries, however, hazardous drinking is characteristic of poorer countries.
- Overall, for both richer and poorer countries, average consumption does not vary considerably between the LDA categories, however it is slightly higher in countries with a LDA *above* 18 years.
- Levels of consumption are inconsistent across LDA categories: in some regions, countries with higher LDAs have lower consumption than countries with lower LDAs, but the converse is also true. **some countries with higher LDAs have higher consumption; some countries with lower LDAs have lower consumption.**
- ***Thus Method 2b: Cross-sectional data for all countries shows no correlation between LDA and level of alcohol consumption. It suggests that there are other contextual and cultural reasons for higher or lower consumption than the LDA.***

Sources: 1. WHO Global Status Report on Alcohol and Health (2014)

METHOD 3: International case studies: an increase in LDA in linked to lower rates of consumption in young drinkers and a lower LDA is linked to higher rates of consumption in young drinkers.

USA

Higher LDA:

- ***Wagenaar and Toomey, 2002:*** Based on a systematic review of 132 research papers during period 1960-2000[1], the research found a significant relationship between increased LDA and reduced alcohol consumption including:
  - Reduced drinking among underage youth; and
  - Reduced drinking among of-age youth who grow up with higher LDAs.
- It was concluded that a higher LDA was the most effective method to reduce youth drinking (compared to other interventions).

- ***Monitoring the Future Survey*** (1976-1987) sampled high school seniors and recent high-school graduates each year throughout the US (n=216,158).[2] Controlling for relevant covariates, a higher LDA resulted in:
  - 5.5% lower prevalence of 30-day alcohol use;
  - 2.8% lower prevalence of heavy alcohol use;
  - 13.8% decrease in the frequency of alcohol consumption; and
  - Lower levels of consumption persisted into early 20s, even after all respondents were of legal age.

Lower LDA:

- ***Plunk et al, 2013:*** Comparison of longitudinal survey data for adults aged 18-53 years (n=24,088)[3] found that a lower LDA resulted in changes in the frequency of **binge drinking**:
  - 15% increase overall;
  - 19% increase in men; and
  - 31% increase in those with no college education.

CONCLUSIONS

- ***Method 3: From the US research, a higher LDA is linked to lower rates of alcohol consumption in under-age and of-age youth while a lower LDA is linked to higher rates of alcohol consumption, especially hazardous consumption.***
- However, it is worth noting that the US has high standards of **enforcement and policing** and a small informal sector. In South Africa, where enforcement in the informal sector is generally weak and there is an alternative in unlicensed outlets, youth can substitute a formal outlet with an unlicensed outlet more easily. This reduces the impact of a higher LDA.
- Evidence has shown that even moderate enforcement of a higher LDA has resulted in reduced alcohol consumption. Enhanced enforcement is associated with an additional 4%-20% reduction in consumption.[4,5,6]

Sources: 1. Wagenaar & Toomey (2002) 2. O'Malley & Wagenaar (1990) 3. Plunk et al, (2013) 4. Barry (2004) 5. Wagenaar et al (2000) 6. Perry et al (2002)

METHOD 2B: International case studies: A change in LDA and impact on drunk driving and traffic accidents.

Raising the LDA

USA

- Reduced prevalence of drunk driving.[1]
- 11-16% decrease in single vehicle night-time crashes involving young drivers.[2–5]
- 19% decrease in fatal crashes involving young drivers (15 years of data from all 50 US states and District of Columbia; analysis controls for relevant covariates).[6]
- Reduced alcohol-related injury fatalities[7] and overall mortalities.[8]
- Higher LDA has saved 800 lives annually among young adults aged 18-20 years.
  - Approx. 22 000 cumulative lives 1975-2002.[9]

Lowering the LDA

Australia

- Increased traffic-related hospital admissions, other accident-related hospital admissions and rates of juvenile crime.[10,11]

New Zealand

- Compared to 20-24 years, increased alcohol-involved traffic crash injuries in younger age groups:[12]
  - 14% for men 15-17 years; 12% for men 18-19 years;
  - 24% for women 15-17 years; 51% for women 18-19 years; and
- Increased prosecutions for alcohol-related disorder offences (14-15 years).[13]

Australia, US, Canada

- Meta-analysis of 33 evaluations in Australia, USA and Canada[14] showed median 16% decline in crash-related outcomes for targeted age groups exposed to a higher LDA.

CONCLUSIONS

- Method 2b) Increasing the LDA reduces traffic crashes and resulting injury and fatality among young drivers.
- This finding may be less relevant in the South African context, where fewer young people drive or have access to private transport, and where enforcement of LDA is not as strong as in Australia, US and Canada.

Sources: 1. Klepp et al, (1996) 2.Wagenaar (1981) 3.Wagenaar & Maybee (1986) 4,5 Saffer & Grossman (1987) 6. Voas & Tippetts, (1999) 7. Jones et al, (1992) 8. Carpenter & Dobkin (2007); 9. Kindelberger (2005) 10. Smith & Burvill (1986) 11. Smith (1986) 12. Kypri et al, (2006) 13. Huckle et al, (2006) 14. Shults et al, (2001)

METHODS 4 & 5: Verbatim opinion from government, NGOs, research institutions, health journalists and alcohol companies on the likely outcomes of increasing the legal age

In favour of raising the LDA in South Africa	Against raising the LDA in South Africa
"The brain finishes development at age 25 thus increasing the legal drinking age is appropriate."	"Introducing an LDA of 21 conflicts with other ages, like the voting age, driving age, etc."
"The part of the brain that is responsible for thinking and decision-making does not fully develop until the early twenties. Those under 25 are less likely to drink responsibly."	"LDA is seldom enforced, especially in rural areas, so increasing the LDA to 21 will likely not impact youth drinking."
"Acceptability is much further away between 16 and 21 so there may be a shift in underage drinking."	"Concerned it will encourage illegal alcohol sales."
"Raising the LDA should be implemented as a stepped approach; increase it to 19 first, as this separates driving and drinking ages, as well as the school-leaving age."	"Believe that youth will still access alcohol, it is more important to focus on enforcement."
"Youth access alcohol in informal taverns. Often see young people in taverns (even in school uniform)."	"18 is a culturally appropriate age to access alcohol."
"Adults send children/youth to buy alcohol for them."	"It will have an effect on employment as industry will no longer hire anyone under 21."
"If you are not dependent on alcohol by 25, you are less likely to ever become dependent on alcohol."	"Transition will be very difficult and is dependent on the behaviour of parents."
"Often few alternate recreational activities in communities."	"The drinking age in SA should align with the SADC region. Neighbouring states with different polices will hinder the shift in minimum drinking age in South Africa."
"Youth have said that increasing the drinking age to 21 will push up the age of initiation/underage drinking."	
"A reduction in drinking is essential in South Africa, but we will be happy even if we see the prevalence of drinking plateau, especially in women, as it implies there are fewer people initiating drinking."	

LDA: Summary of likely outcomes on consumption and public health in South Africa

Based on Methods 1–5, we estimate that increasing South Africa's LDA from 18 to 21 would result in the following reductions in alcohol consumption and alcohol-related traffic morbidity and mortality:

Outcome	Reduced alcohol consumption		Reduced hazardous alcohol consumption		Reduced alcohol-related traffic injuries		Reduced alcohol-related traffic fatalities	
Age group	**Youth (15-34)**	**Overall (15+)**	**Youth (15-34)**	**Overall (15+)**	**Youth (15-34)**	**Overall (15+)**	**Youth (15-34)**	**Overall (15+)**
International case studies	5.5%	-	-	15%	16%	-	19%	-
Consultation with SA health experts	4%	2%	-	-	8%		9.5%	-
Consultation with alcohol companies	-	5% to 12%	-	-	-	-	-	-
Best estimate (adjusting for likely levels of enforcement, the migration of some 19 and 20 year olds to unlicensed sector, and youth driving patterns) – from Year 1	**-**	**3% to 7%**	**-**	**7.5%**		**3%**	**-**	**3%**

However, alcohol consumption will only fall in accordance with how well the law is enforced or is enforceable.

- Despite higher minimum drinking age laws, young people succeed in purchasing alcohol, especially when there is little community support for underage alcohol sales enforcement.[1-3]
  - This has been shown in the US, and will likely be more challenging in the SA context where unlicensed alcohol is freely available.
- Even moderate increases in enforcement have been shown to reduce sales to minors by as much as 35%-40%, especially when combined with media and other community activities.[1,4]
- Moreover, where there is an alternative source in the informal sector, there may be a shift from the formal to informal sector.

Enforcing a higher LDA will be more effective if coupled with:

- Stricter requirements for identification for all purchasers of alcohol.
- Much stiffer penalties for selling to underage drinkers. Policing blitz and ongoing enforcement of unlicensed retail sector.
- Programmes with the private sector to regulate the unlicensed retail sector.
- Building strong coalitions with civil society to change community attitudes to youth drinking.
- Keeping the public informed of the positive effects, in terms of savings in injuries, premature deaths, and money – and public health awareness campaigns.
- Providing more resources for youth activities and mentoring of youth.

Sources: 1. Grube (1997) 2. Wagenaar & Wolfson (1994) 3. Wagenaar & Wolfson (1995) 4. Wagenaar et al, (2000), 5. Statistics SA 2017, 6. WHO 2015

DOES A CHANGE IN LDA IMPACT CONSUMPTION LEVELS?
RESULTS SUMMARY

Method 1) Consider global norms of LDA and assess whether South Africa is within global norms; ***South Africa's LDA of 18 is within global norms.***

Method 2a) Look for a relationship between LDA and levels of consumption globally; ***There is no observed relationship from this between LDA and consumption levels.***

Method 2b) Cross-sectional analysis of average alcohol consumption per regional LDA yields; ***Cross-sectional data for all countries shows no correlation between LDA and level of alcohol consumption. Some countries with higher LDAs have higher consumption; some countries with lower LDAs have lower consumption. It suggests that there are other contextual and cultural reasons for higher or lower consumption than the LDA.***

Method 3a) Consider instances where LDA was changed (either upwards or downwards) where the impact was assessed and documented on youth drinking ***US: When LDA was changed youth drinking fell by 5% and hazardous drinking fell by 15%.***

Method 3b) Consider instances where LDA was changed (either upwards or downwards) where the impact was assessed and documented on drunk driving and traffic accidents: US, Australia and NZ: ***When LDA was changed alcohol related traffic injuries fell by 16% and alcohol related traffic deaths in <34 by 19%.***

Method 4) Consult with health experts: ***It will lower overall volumes by 2%; alcohol-related traffic injuries by 8%; and alcohol related traffic deaths 9,5%.***

Method 5) Consult with alcohol companies: ***It will lower volumes by 5% to 12%.***

OTHER PUBLIC INTEREST ISSUES: Constitutionality of LDA and risk to youths

LDA: Constitutional and legal issues

- The Children's Act No. 38 of 2005 (section 17) establishes the age of majority as 18 years (Date of commencement: 1 July, 2007.) Before that, age of majority was 21 years under the Age of Majority Act, No. 57 of 1972).
- Section 28(3) of the Constitution, 1996 also establishes that a "child" means a person under the age of 18 years in relation to child rights. Conversely then, the Constitution also establishes majority rights from age 18.
- At 18 a citizen is a major and has full legal capacity including the power to vote, marry, and be a legal guardian, adopt a child and make a will (at 16). The age of sexual consent is 16 as specified by sections 15 and 16 of the Criminal Law (Sexual Offences and Related Matters) Amendment Act, 2007.
- Whether the age of majority may be shifted for the consumption of alcohol may raise legal and constitutional implications on which legal opinion, which is beyond the scope our expertise, must be sought.

LDA: Migration to poorly policed unlicensed sector could create higher risks

- The impact of LDA on is not certain. Enforcement of the LDA in formal retail outlets is likely to put migratory pressure on some 14, 15, 16, 17 18, 19 and 20 years olds to move where they can drink – be it off-consumption at home, or to unlicensed outlets where <21 drinking is not enforced.
- Shebeens are by their nature, clandestine operations. They have been linked to crime in the form of theft, violence and gender based violence and higher risks of unsafe sex and HIV infection.
- Thus, **if the imposition of LDA in the formal sector is not complemented with effective enforcement in the informal sector, we expect migration of <21 drinking from formal to informal.** Here the problem is not visible and young drinkers are more in harm's way in the form of crime, violence, and communicable diseases than they would have been in the formal sector.
- This would have the opposite effect of the policy goal which is to keep young people safe from harm.

Table of Contents

Assessing the likely effect of advertising restrictions

- South African advertising policies
- International norms
- Regional analysis (advertising restrictions v consumption)
- Evidence that advertising affects consumption
- Evidence of advertising restrictions
- Tobacco case study
- Verbatim quotes
- Best estimates for South Africa

Does alcohol advertising impact consumption levels? Seven methods are used

1. **Method 1:** Compare South African current policy to advertising best practice guidelines from World Health Organisation, 2011;
2. **Method 2:** International scan of the approaches taken by other countries (16 countries) – how common are restrictions?
3. **Method 3:** Cross sectional analysis to assess correlation between advertising restrictions and consumption levels globally;
4. **Method 4:** Review of international literature;
5. **Method 5:** What can be learned from the experience of tobacco advertising in South Africa;
6. **Method 6:** Consult with SA health experts;
7. **Method 7:** Consult with alcohol companies.

METHOD 1: South Africa's policies to restrict advertising vis-à-vis WHO recommendations

The WHO Global Strategy 2011 to Reduce Harmful Use of Alcohol identifies seven principles:

1. Reduce affordability of alcohol through policies on taxation and price increases.
2. Reduce availability of alcohol by restricting or regulating the sale of alcohol to the public.
3. Reduce availability of alcohol by regulating the hours and days of trade.
4. Reduce alcohol consumption by children and young people by setting a minimum age for sale and purchase.
5. Monitor and enforce legislation and policy.
6. **Reduce exposure to alcohol marketing.**
7. Deter drinking and driving.

WHO recommendation	Assessment of current policy in South Africa
Regulatory frameworks, backed by legislation, that restrict alcohol marketing by: - Regulating content and volume of marketing; - Regulating direct/indirect marketing in certain or all media; - Regulating sponsorship activities; - Restricting promotions that target youth; - Regulating new forms of alcohol marketing techniques (eg. social media).	South Africa's current framework is self-regulated and not backed by legislation 
Effective systems for surveillance of marketing of alcohol products by independent bodies.	
Effective administrative and deterrence systems for infringements on marketing restrictions.	

Conclusion: South Africa's current regulatory framework falls short of the WHO recommendations for reducing exposure to alcohol marketing.

Source: 1. WHO (2011);

Why do alcohol companies advertise: two theories

The aim of alcohol advertising is to:

1 Increase the size of the market size (grow the absolute number of drinkers)

- The industry's asserts that marketing is not used to grow market size, as the market is already mature. This is supported by figures which show a 0.65% decline in volumes in four years, and a falling consumption per capita, which are indeed signs of a mature market.
- However, some stakeholders in industry report that innovative marketing strategies are indeed aimed at attracting new entrants into the alcohol market, particularly women and young people, for example, sweetened beverages; ready-to-drink pre-mixes; and non-alcoholic beers.
- Critics argue that advertising in a mature market can still impact on attitudes, perceptions and behaviours by normalising the social context of drinking. Alcohol advertising can appeal to young people by combining humour, attractive ideas, images, phrases, and resources related to peer-to-peer interaction. In doing so, alcohol can become an important part of identity formation at a critical stage of social life.
- Alcohol advertising is widespread from advertising on TV, social media, outdoor, billboards and posters to promotional events.
- Alcohol is made attractive to youth because the advertisements present images of fun, relaxation, refreshment, friendship and socialising. This is supported by some youth studies – see Soul City (2017).

> "…the first thing that you'll come across is the big picture and the message [slogan] will be there and you will be like 'wow' and then you are sold…"
>
> (mixed group, rural area)

> "Just by looking at the image of this alcohol, you feel like trying it!"
>
> © Paballo/31-10-15/Soul City Institute

2 Differentiate products and grow brand loyalty (steal market share from competitors)

- Here the purpose of marketing is to influence brand choice and grow brand loyalty amongst existing drinkers, rather than influence the decision of new drinkers. This is part of securing high levels of competition (and thus innovation) in any market.
- Industry asserts this is the purpose of advertising of South Africa.

Sources: 1. Econometrix (2013); 2.Holtzkkampf (2015); 3. Lee & Tremblay (1992); 4. Gius (1996) 5. Nelson (1999); 6. Terblanche-Smit (2014); 7. Truen et al (2014); 8. Gates et al. (2007); 9. McCreanor et al. (2005); 10. WHO (2011); 11. Anderson et al. (2009); 12. De Bruijn et al. (2012); 13. Hastings et al. (2010)

METHOD 2: Globally, outright bans on alcohol advertising are not common. Many countries adopt partial restrictions.

Norway, Iceland and the **Faroe Islands** ban alcohol advertising completely, including internet-based advertising.

In the **Cook Islands,** alcohol advertisements are only shown on television during live sports coverage of international events**.**

Republic of Korea, alcohol advertisements may be shown only after 22:00 on television.

In **Thailand**, alcohol advertising is regulated based on 1) content; 2) channel, time and place; 3) warning messaging.

Thailand, prohibits alcohol advertising on state television but not commercial

France, Italy, Denmark and Belgium set partial bans on alcohol advertising, which allow advertising on print media but not on broadcast media.

China bans alcohol advertising on television,

Australia and New Zealand limit advertisements for alcohol brands only on television after 20:30 and on radio

In **China, Mongolia and Vietnam** advertising is allowed for alcoholic beverages below a specified pure alcohol content.

Mongolia prohibits all alcohol sponsorship and promotions (like alcohol prizes or competitions and alcohol branded merchandise).

France: Loi Evin in 1991

- France has the most comprehensive regulation on alcohol marketing, according to 191 other countries evaluated by WHO in 2014, limiting both exposure and content.
- Alcohol advertising is permitted in print media, on radio and on billboards, while alcohol advertising on television and in cinemas is banned.
- It also prohibits alcohol sponsorship and the sale of alcohol in gyms and other sports facilities.
- The content of advertising is restricted to product characteristics such as provenance and quality, making it less attractive to young people.
- All advertisements must carry a message that alcohol is dangerous to one's health.

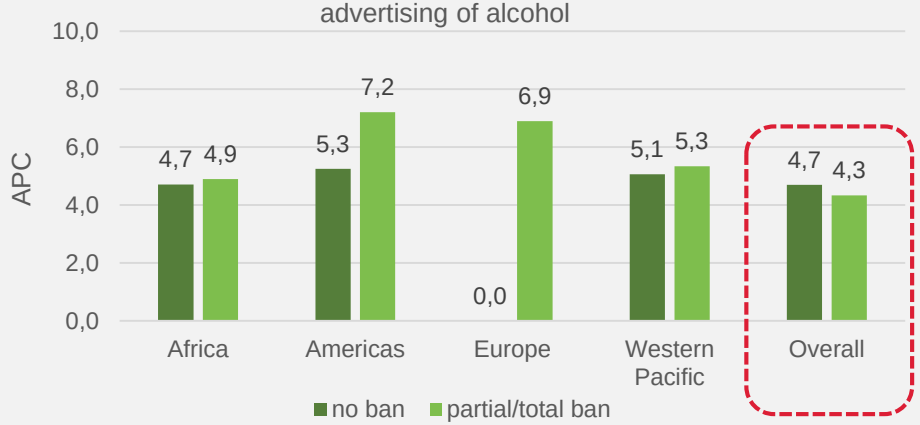
Sources: 1. World Health Organization (2004) 2. WHO (2011); 3. Rigaud & Craplet (2004);

METHOD 3: Cross-sectional comparison of advertising restrictions and levels of alcohol consumption yields inconclusive results.

It is difficult to draw a strong correlation between advertising restriction and alcohol consumption by looking at cross-sectional data for countries with different contexts and cultures (even when data is disaggregated by region and country income group)

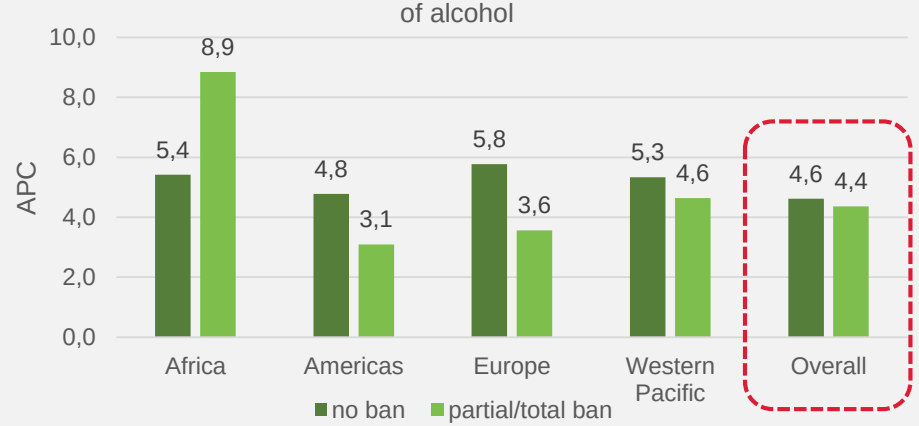
Poorer countries

The average alcohol consumption rate (15+) in **low to low-middle income** regions with no ban and some ban on advertising of alcohol



Richer countries

The average alcohol consumption rate (15+) in **high-middle to high income** regions with no ban and some ban on advertising of alcohol



Excluded from analysis: i) Eastern Mediterranean countries, ii) South-East Asian countries iii) countries where alcohol is illegal, iv) countries missing data on restrictions

CONCLUSIONS

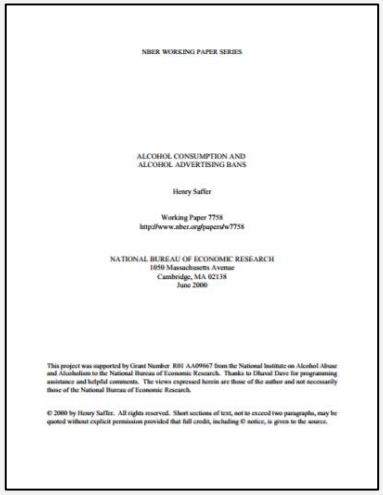
- When looking at the world overall, no ban on alcohol advertising is associated with a higher APC compared to a partial/total ban. However, when looking at each region there is no strong correlation: some regions have stricter bans and high consumption and some have lax restrictions and low consumption.
- Levels of consumption are inconsistent across regions: in some regions, some countries with stronger restrictions have lower consumption than countries with weaker restrictions, but the converse is also true
- Overall, for richer countries, no ban on alcohol advertising is associated with higher alcohol consumption rates. This holds true for each region except for Africa where no ban is associated with lower consumption.
- **Method 3: Thus the cross-sectional data for all countries shows it is difficult to draw a strong correlation between bans on alcohol advertising and level of alcohol consumption from this method. This suggests there may be other contextual and cultural reasons for higher or lower consumption than the advertising policy.**

Source: Data taken from WHO 2014

METHOD 4: Must of the international literature is contradictory: two leading studies: Saffer (2000) found evidence of a decrease in consumption following advertising restrictions; Cochrane Review 2014 found inconclusive evidence.

Evidence showing a decrease in alcohol consumption due to alcohol advertising restrictions

Alcohol consumption and alcohol advertising bans



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ALCOHOL CONSUMPTION AND ALCOHOL ADVERTISING BANS

Henry Saffer

Working Paper 7758
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NATIONAL BUREAU OF ECONOMIC RESEARCH
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In a study of pooled time series data from 20 countries over a 26-year period, Saffer et al. (2000), concluded that alcohol advertising bans decrease consumption by **5% to 8%.**

Limitations to the Saffer at al. (2002) paper:

- The data used in the study was from the years 1970-1995

Inconclusive evidence of the impact of alcohol advertising bans on consumption

Cochrane review 2014: *Restricting or banning alcohol advertising to reduce alcohol consumption in adults and adolescents*

Cochrane Library
Cochrane Database of Systematic Reviews

Restricting or banning alcohol advertising to reduce alcohol consumption in adults and adolescents (Review)

Siegfried N, Pienaar DC, Ataguba JE, Volmink J, Kredo T, Jere M, Parry CDH

WILEY

The Cochrane review concluded that there is a lack of robust evidence for or against recommending the implementation of alcohol advertising restrictions. The review also notes this is more likely because the research has not been scientific or comprehensive enough to date.

Limitations to the Cochrane review:

- Strict inclusion criteria
- Usually includes RCTs and RCTs may not an appropriate method to measure advertising restrictions
- Often excludes observational studies

Sources: 1. Cochrane review (2014),2. Saffer et al., (2000)

METHOD 4: However, there is **strong evidence that young people** who are exposed to alcohol advertising are more likely to initiate alcohol use earlier, consume more and to engage in binge drinking.

The table below shows the findings from systematic reviews of the evidence on the link between advertising and youth alcohol consumption.

Findings	Impact on youth consumption	Comments
In a systematic review of 13 longitudinal studies* of 38 000 young people **Anderson et al. (2009)** found that longitudinal studies consistently suggest there is an association between exposure to advertising and alcohol and adolescents starting to drink alcohol, and with increased drinking among baseline drinkers.	**Increased**	The authors recognise they did not attempt to quantify the quality of the study characteristics other than the longitudinal design.
In a systematic review of seven cohort studies of young people, **Smith and Foxcroft (2009)** suggest that increased exposure to alcohol advertising or promotional activity and leads to an increase in alcohol consumption in young people.	**Increased**	The authors state that the modest effect sizes and confounding factors limits the strength of their conclusions.
Bryden (2012), included observational studies that provided a quantitative estimate of the size of the relationship between marketing and alcohol use. The review focused on marketing locally via billboards and in store adverts and found the results inconclusive.	**Inconclusive**	
Jernigan et al. (2016) conducted a systematic review of 12 studies. All 12 studies found evidence of a positive association between advertising exposure and level of youth consumption. Some found significant associations between youth exposure to alcohol marketing and initiation of alcohol use (OR ranging from 1.00-1.69). There were clear associations between exposure and which resulted in binge or hazardous drinking (OR 1.38-2.15)	**Increased**	None of the 12 studies was in developing countries.
Stautz et al. (2016) conducted a meta analysis integrating 7 studies (758 participants, all students). They found that viewing alcohol advertising increased alcohol consumption relative to viewing non alcohol advertisements (SMD= 0.2, 95% CI=0.05-0.34). Viewing alcohol portrayals did not change alcohol consumption.	**Increased**	Generalisability of findings beyond students and to other marketing channels remains to be established.

*In general there is an absence of published experimental research in participants other than youth or students

*A longitudinal study is an observational research method in which data is gathered for the same subjects repeatedly over a period of time

Sources: 1. Siegfriend (2014), 2 Anderson et al (2009) 3. Smith and Foxcrodt (2009) 4. Bryden (2012) 5. Jernigan et al (2016) 6. Stautz et al (2016)

METHOD 4: There is also evidence that exposure to alcohol advertising results in increased consumption levels for young people who are already **heavy drinkers.**

The table below shows the findings from systematic reviews of the evidence on the link between advertising and youth alcohol consumption.

Findings	Impact on heavy drinkers	Comments
Koordeman et al. (2011) found that alcohol consumption among high weekly alcohol drinkers (16-28 years) was higher in the alcohol commercial condition than in the none alcohol commercial condition. There was no difference in alcohol consumption by exposure to alcohol commercial in low weekly alcohol drinkers.	**Increased**	
Tapert et al. (2003) found that alcohol advertising leads to distinct patterns of brain activation, causing craving responses and affecting consumption decision in young people who are heavy drinkers.	**Increased**	

*In general there is an absence of published experimental research in participants other than youth or students

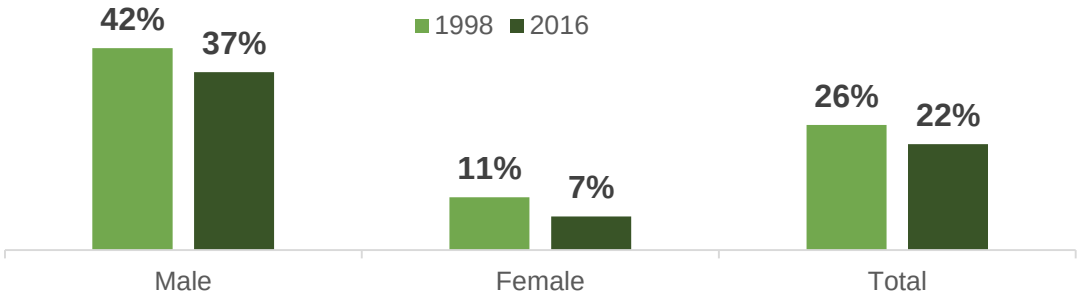
Sources: 1. Koordeman et al (2011), 2. Tapert et al., (2003)

METHOD 5: The ban on tobacco advertising has coincided with a reduction in tobacco use in South Africa but this was in combination with other policy interventions (tax increases, public restrictions).

Tobacco advertising was banned in South Africa in 2000. The reasons for the ban were similar to those currently proposed for restrictions on alcohol advertising: 1) both products are known to have associative harms, and 2) both products appeal to the youth through marketing. It should be noted, however, that tobacco is different to alcohol - it has stronger addictive properties; tobacco cannot be enjoyed in harm-free moderation; the tobacco value chain is less complex; the tobacco market share is more concentrated; and in that other factors (like a steep rise in excise tax) influenced the outcome. Nevertheless, it stands as an interesting case study.

The number of any users of tobacco declined in South Africa since the introduction of interventions, like a ban on tobacco advertising, an increase in tobacco tax and restrictions on public smoking

The total percentage of tobacco users in South Africa in 1998 and 2006, disaggregated by gender



- Overall there was a 4% reduction in tobacco use from 1998 to 2016.
- There was a 26% reduction in tobacco use in 15-16 year olds since the restrictions on advertising (suggests a link between advertising and uptake of smoking *by youths*).
- *Direct causation has not been established, however, as the ban on tobacco advertising in South Africa was coupled with other interventions, like a restriction on public smoking and increased taxes.*

Best research: A thematic analysis of the impact on banning tobacco advertising quantified that a limited ban may reduce the per capita consumption of tobacco by 13.6%, while a comprehensive ban may reduce consumption by 23.5% in developing countries (Bletcher, 2008).

What the ban did to advertising dynamics:

- A ban on ATL tobacco marketing drove more point-of-sale marketing, and the tobacco pack become the primary vehicle for promotion and differentiation.
- Tobacco companies also moved energetically into marketing and sponsoring recreational events.
- Currently, the tobacco industry faces restrictions on packs as well. Plain package regulations are being implemented in Australia, France and the United Kingdom. South Africa is considering these regulations.
- Plain packs are argued to have a deterrent effect on the onset of smoking by young people, and an encouraging effect on existing smokers to reduce or discontinue consumption.

Best research: A systematic review found that plain packaged tobacco products had less appeal than branded packs in low-income countries (Hughes et al., 2016). Smokers were three times more likely to intend to purchase tobacco if the pack was branded, compared to unbranded packs (Guillaumier et al., 2015)

Sources: 1. Bletcher (2008); 2. Freeman et al. (2008); 3. Pierce et al. (1998); 4. WHO (2003); 5. Consultation with expert; 6. Hughes et al. (2016); 7. Guillaumier et al. (2015)

METHOD 6: Consult with international and SA health experts
METHOD 7: Consult with SA alcohol companies

Outcome	Estimates of educed alcohol consumption
Age group	**Population (15+)**
Consultation with international and SA health experts (n=15)	4%-7%
Consultation with alcohol companies (n=6)	7%-10%

Sources: 1.Saffer et al., (2002), 2. stakeholder consultations

METHODS 6 & 7: Verbatim views for and against advertising restrictions

Against alcohol advertising restriction	In favour of an alcohol advertising ban with strict enforcement
"A ban on advertising will be to the detriment of smaller suppliers, while the big suppliers will shift their marketing activities to below-the-line advertising and to greater shelf-space. Thus a ban will not change the overall consumption, it will just shift the market share."	"Youth are vulnerable and have weak resistance to advertising."
"Believe a ban will help the big players in the market as people are familiar with the brand. Will cause a barrier to entry into the market."	"Alcohol advertising promotes the product but does not explain the harms, thus pregnant women can't make informed decisions about drinking, as they don't know that they can't drink during their pregnancy."
"If advertising is restricted, industries will find other ways to market their product. This will most likely be through new innovative products or below the line advertising."	"Restricting alcohol advertising will change the social norms, there will be a drop in heavy drinking as companies won't be able to promote liquor at a cheaper price. This will have a long-term impact on disease and violence."
"Products are advertised to create brand loyalty and not to recruit new drinkers in the market."	"A ban on advertising needs to be coupled with stringent policing and enforcement."
"Freezes market share, new brands won't be able to build their brand."	"Africa and Asia are new markets, while the European liquor market is shrinking, thus international companies are looking to target Africa."
"Marketing is not linked to the medium, it is linked to the consumer. We will have to find a way for the consumer to receive our messaging. It's not like alcohol companies will stop marketing."	"The ban on smoking advertising led to a decrease in smoking, but the ban was implemented in combination with other activities that made it difficult to smoke. We need to have a combination of interventions that include stigmatisation campaigns that showcase the unhealthy side of alcohol consumption."
	"A total ban would be far more effective than a partial ban – we consider the current amendments a major compromise."
	"The current proposed restrictions will not necessarily be effective in reducing youth exposure."

DOES ALCOHOL ADVERTISING IMPACT CONSUMPTION LEVELS?
Results summary

1. **Method 1:** Compare South African current policy to advertising best practice guidelines from World Health Organisation, 2011: ***South Africa's current regulatory framework falls short of the WHO recommendations for reducing exposure to alcohol marketing.***

2. **Method 2:** International scan of the approaches taken by other countries (16 countries) – how common are restrictions;? ***Globally, outright bans on alcohol advertising are not common but many countries adopt partial bans.***

3. **Method 3:** Cross sectional analysis to assess correlation between advertising restrictions and consumption levels globally; ***Cross-sectional data for all countries shows it is difficult to draw a strong correlation between bans on alcohol advertising and level of alcohol consumption from this method.***

4. **Method 4:** Review of international literature; ***Much of the international literature is contradictory:*** Two leading studies: ***Saffer (2000) found evidence of a decrease in consumption following advertising restrictions of 5% to 8%; Cochrane Review 2014 found inconclusive evidence. There is however strong evidence that young people who are exposed to alcohol advertising are more likely to initiate alcohol use earlier, consume more and to engage in binge drinking. There is also evidence that exposure to alcohol advertising results in increased consumption levels for young people who are already heavy drinkers.***

5. **Method 5:** What can be learned from the experience of tobacco advertising in South Africa: ***The ban on tobacco advertising coincided with a reduction in tobacco use in South Africa but this was in combination with other policy interventions (tax increases, public restrictions).***

6. **Method 6:** Consult with international and SA health experts: ***It will reduce volumes of consumption by 4% to 8%.***

7. **Method 7:** Consult with SA alcohol companies: ***It will reduce volumes by 7% to 10%.***

ADVERTISING RESTRICTIONS: Summary of likely outcomes in South Africa

Based on the findings of Methods 1 to 7 (a review of WHO guidelines, international literature, international case studies, learnings from the advertising ban on tobacco, as well as estimates from experts in public health and the alcohol industry) we estimate that the restrictions on alcohol advertising as proposed in the bill would result in the following reductions in total alcohol consumption (volumes) in South Africa over a three to five year period.

Outcome	Reduced alcohol consumption
Age group	**Population (15+)**
International case studies	5%-8% (Saffer 2000)
Consultation with international and SA health experts (n=15)	4%-7%
Consultation with alcohol companies (n=5)	7%-10%
Best estimate for South Africa (over 3 to 5 years)	**4%-8%**

Sources: 1.Saffer et al., (2002), 2. stakeholder consultations

Summary of likely impact in South Africa of LDA and advertising restrictions

We estimate that the combined impact of LDA and advertising in South Africa will be a 3.2% - 7.4% reduction in alcohol consumption among drinkers aged 15+.

To estimate the likely impact of the LDA and advertising restrictions on consumption and public health in South Africa, we have drawn from the information gathered using seven different methods. Assumptions used**:**

1. The impact of the increase in LDA and advertising restrictions is not additive. The policy changes are likely to reinforce each other.
2. It is difficult to translate this percentage decrease in consumption into number of drinkers as the distribution of the reduction in consumption is unclear e.g. who will decrease their consumption and by how much.
3. It is difficult to estimate the time period over which the impact will be seen. We assume that:
    - There will be a larger impact initially (years 1-2). This initial impact will mainly be due to the implementation of the LDA restriction and is likely to primarily affect those <20 years old.
    - From year five onwards, we are likely to see a cohort effect from LDA and the changes in social norms due to advertising (which often take longer). We anticipate seeing a steady change which will affect all drinkers 15+ years.
4. We have also estimated the likely impact of the interventions of other outcomes (hazardous consumption and alcohol-related traffic fatalities) for which there is evidence. We are unable to quantify the impact on other health and social outcomes e.g. HIV and violence as there is not enough evidence, but it is likely that we would see a reduction in incidence of these.

Sources: 1. Statistics SA mid-year population estimates (2017)

VICARIOUS LIABILITY CLAUSE Establishes that any manufacturer or distributor who distributes alcohol to an unlicensed person will responsible for the harm caused by such unlawful distribution.

According to the Amended Liquor Bill, manufacturers or distributors who distributes liquor to an unlicensed person shall be jointly and severally liable for –

a) any harm or unlawful conduct caused wholly or partly as a consequence of the supply of liquor to the unlicensed person;

b) death of, or injury to any natural person; or

c) any loss of, or physical damage to any property, irrespective of whether it is movable or immovable.

COMMENTARY

- It is not possible to model the impact of this clause in advance as its validity and meaning will only be shaped when it is tested in practice in an actual prosecution.
- It raises the legal-philosophical question of moral responsibility – where does the responsibility for abusive drinking lie – with a manufacturing for making the product, with a distributor for spreading the product, with a retailer for selling the product, with government for not enforcing the law, with communities for allowing abusive behaviour – or with individuals to take responsibility for their own actions?
- An international scan was undertaken and could not find another jurisdiction where vicarious liability is applied to alcohol manufacturers and distributors.
- It is highly likely that the amendment, as structured, would be challenged on constitutional grounds of discrimination, unenforceability or vagueness.
- If it did pass constitutional muster, there would or should be no immediate impact on formal sector companies, at least in theory, because all consulted companies felt they were already in full compliance with the existing laws to sell only to licensed persons. In practice it would however likely ensure that all major providers strengthen compliance procedures in dealing with licensed customers, and would force companies to take more interest in downstream activities.
- For manufacturers and distributors who are not compliant it is also unlikely much would change in practice: after all there is already a heavy criminal sanction (including a fine or jail time) in place for distributing liquor to an unlicensed person and the practice still occurs. Would a civil sanction be any more of a deterrent than such criminal penalties?
- Other concerns centred on practicality of attribution - if a drinker has spent a long afternoon and evening drinking 8 varieties and brands of alcohol attribution of harm would be difficult to prove.
- It is also hard to see on the grounds of fairness how the manufacturers of obviously dangerous but legal substances like firearms and cigarettes would escape vicarious liability while alcohol does not.
- It would make more equitable and legal sense to vicariously link the harm to the point of consumption – to the seller of alcohol who sells to a minor, or pregnant woman, or intoxicated person. At the point of retail/consumption the nexus between the act and harm is closer, and there is more chance of sellers holding reasonable line-of-sight to the harm that may occur, which will be important from a legal perspective. See case study on next slide.

Where has vicarious liability been implemented?

- International research could not locate any jurisdictions where vicarious liability is imposed on alcohol manufacturers and distributors.
- However, under the case law of the United States, the “Dram Shop” laws liability can be extended to vendors and retailers for monetary damages where harm has arisen as a result of intoxication, there is a proximate cause between the alcohol sale and intoxication, and Intoxication was at least one cause of the third-party damages.

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Commercial Host (Dram Shop) Liability in the US

“Dram shop" laws are named after establishments in 18th Century England that sold gin by the spoonful (called a "dram"). These laws are enforced through civil lawsuits, allowing DUI victims or their families to sue alcohol vendors or retailers for monetary damages. Typically, when the plaintiff wins a lawsuit against both an alcohol vendor and the intoxicated driver, the compensatory damages are divided between the two defendants.

In one such case, a New Jersey jury awarded $135 million to the family of a girl paralyzed in 1999 after a drunk driver collided with the car in which she was riding. The drunk driver reportedly had a blood-alcohol concentration that was double the legal limit after leaving a New York Giants football game. It was determined that the concessionaire at Giants' Stadium shared the liability for the victim's serious injury.

As of 2009, 44 U.S. states and the District of Columbia have dram shop laws, which vary by state in scope. The states without dram shop laws are Delaware, Kansas, Louisiana, Maryland, Nebraska, Nevada, South Dakota and Virginia.

The CDC Community Preventive Services Task Force, an independent, non-federal, volunteer body of public health and prevention experts, **recommends dram shop liability as an effective intervention for reducing alcohol-related harms.** This is based on a systematic review which showed that areas with dram shop liability laws have reduced motor vehicle deaths, homicides, and alcohol-related medical conditions. The review concludes that areas with dram shop liability had **6.4% fewer alcohol-related motor-vehicle deaths** than comparable areas.[1]

Source: Rammohan V, Hahn RA, Elder R, Brewer R, Fielding J, Naimi TS, Toomey TL, Chattopadhyay SK, Zometa C, Task Force on Community Preventive Services. Effects of dram shop liability and enhanced overservice law enforcement initiatives on excessive alcohol consumption and related harms: two Community Guide systematic reviews. Am J Prev Med 2011;41(3):334-43, Thomson Reuters, Find Law, http://dui.findlaw.com/dui-laws-resources/dram-shop-laws.html?version=2

The B-BBEE AMENDMENT empowers the National Liquor Regulator, when registering a licence application, to consider *inter alia* compliance with a BEE level to be set by the Minister

The dti reports that the B-BBEE clause has been included in the amendments to accelerate the slow pace of transformation in the alcohol industry, and because commitments made under the current framework are "often not honoured and are not monitored." The assessment of the slow pace of transformation is supported low BEE contribution scores of some of the major producers, distributors and alcohol retailers (see below left) with an average score of Level 6,3. There is no sector Charter for the alcohol industry.

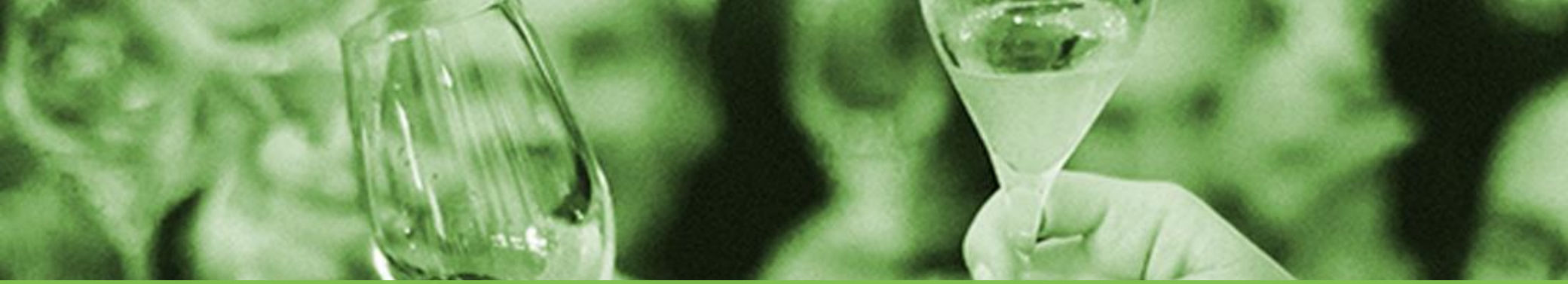
A target score has not been set in the bill and discretion is given to the Minister of Trade and Industry to prescribe a level. Until a level is set, it is not possible to model economic impact. dti officials confirmed in consultation that the level will be set initially at a par with the requirements of the B-BBEE Act, and that over time the Minister in consultation with the industry "would want to see progression" towards a target. Assuming a target of Level 4 is set (this allows for a 1:1 contribution score) five of the biggest six alcohol companies and almost all of the 568 wineries in the country would not reach the target at present.

Company	B-B BEE Level
Major alcohol manufacturers & distributors	
SAB Inbev	7
Distell	4
Diageo	5
Edward Snell	6
Pernod Richard	5
Heineken	5 (on old codes)
Wine industry (Vinpro) – 568 wineries	Mostly exempt; otherwise level 8 or non compliant
Major liquor retailers	
Pick 'n Pay	8
Shoprite	8
Woolworths	7
Massmart	7
Spar	6

At a Level 4, Distell would be the only company among the large manufactures at or above target. Clarity on the exact impact of such a target would require NEDLAC to commission a further assessment that would be a full BEE audit of all the companies in the industry, against the final level.

Notes from consultations

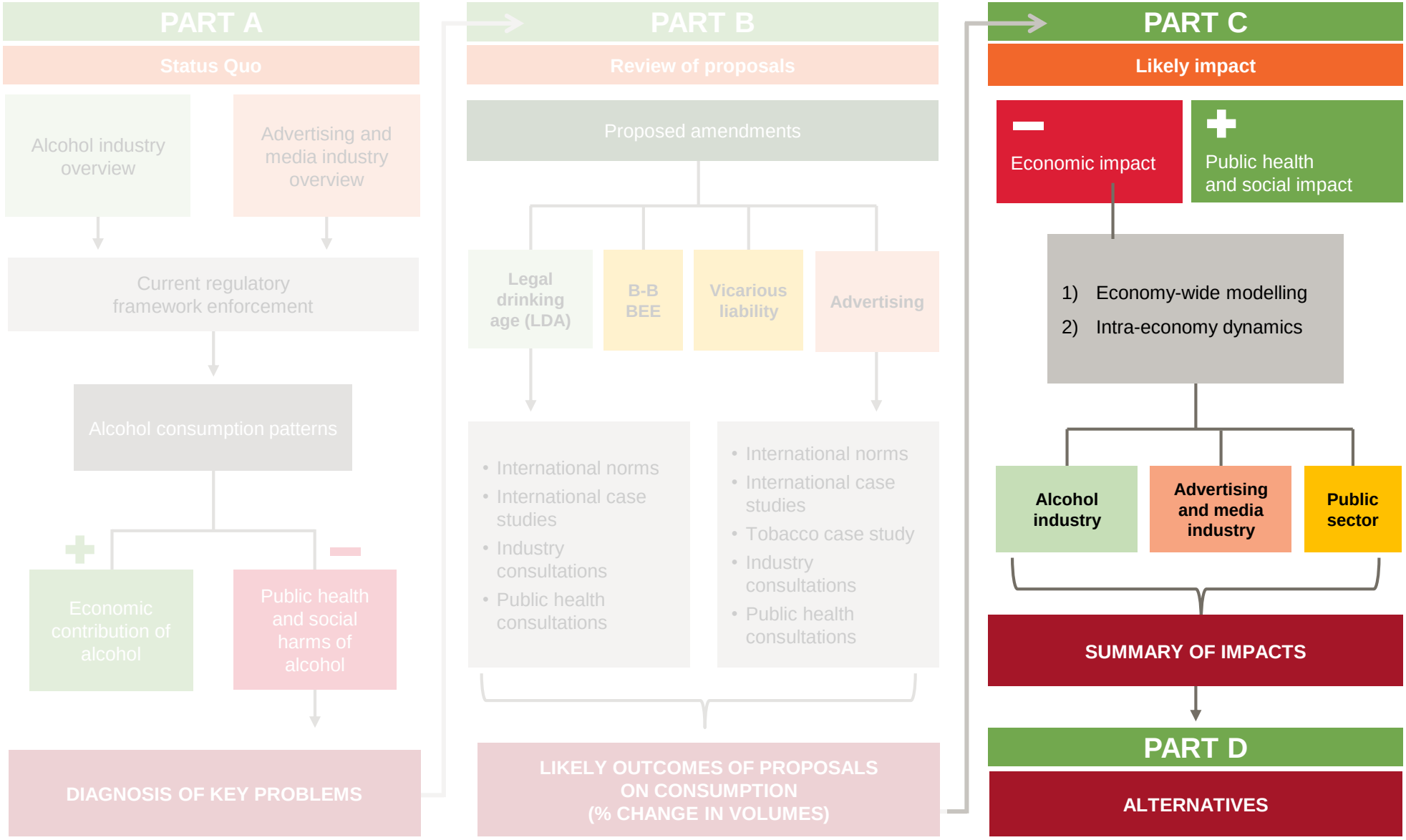
- All of the companies interviewed for this research expressed in principle support for the intention of the B-BBEE clause to transform the alcohol industry further. No one raised concerns with the power lying with the NLR on the prescription of the Minister.
- Rather the concern is with the powers given to Minister to set (and therefore change) the level outside of an amendment to an act. The fear is that a new Minister with this power might change the level arbitrarily. This raises levels of uncertainty. The industry would prefer a defined level to be set in the Act itself to improve certainty.
- Significant steps would have to be taken to improve BEE scores to Level 4. However, at Level 4 almost the whole industry would be below target. It is thus unlikely that a drastic change could be imposed without closing most of the industry. As with all major policy changes in South Africa, there would likely be a period of consultation to establish a pragmatic stretch target.
- Factors for consideration include:
  - That four of the top five companies are majority foreign-owned;
  - That the wine industry has few black companies – making it harder for wine buyers to work with black-owned suppliers.
  - The view was also expressed that it could be legally problematic to set BEE score as a condition of licensing as it is, at its root, a voluntary system.
- The view was also expressed that the industry should negotiate a sector charter. It would then have more opportunity to structure a path to transformation that works with the nuances and circumstances of the industry which would negate the need for heavy-handed intervention in the new Act.



PART C

Likely public health, social and economic impact

CONCEPTUAL APPROACH TO THE STUDY



PART C

Likely public health and social impact

Likely consumption, public health and social impacts in South Africa of LDA + advertising restrictions

To estimate the likely impact of the LDA and advertising restrictions on consumption and public health in South Africa, we have drawn from the information gathered using seven different methods. **We estimate that the combined impact of LDA and advertising in South Africa will be a 3.2% - 7.4% reduction in alcohol consumption among drinkers aged 15+.**

We have had to make a number of assumptions. These are:

1. The impact of the increase in LDA and advertising restrictions is not additive. The policy changes are likely to reinforce each other.
2. It is difficult to translate this percentage decrease in consumption into number of drinkers as the distribution of the reduction in consumption is unclear e.g. who will decrease their consumption and by how much.
3. It is difficult to estimate the time period over which the impact will be seen. We assume that:
    - There will be a larger impact initially (years 1-2). This initial impact will mainly be due to the implementation of the LDA restriction and is likely to primarily affect those <20 years old.
    - From year five onwards, we are likely to see a cohort effect from LDA and the changes in social norms due to advertising (which often take longer). We anticipate seeing a steady change which will affect all drinkers 15+ years.
4. We have also estimated the likely impact of the interventions of other outcomes (hazardous consumption and alcohol-related traffic fatalities) for which there evidence. We are unable to quantify the impact on other health and social outcomes e.g. HIV and violence as there is not enough evidence but it is likely that we would see a reduction in incidence of these.

Outcome	Impact	Notes and assumptions
Number of people (15-20 years) who are likely to reduce alcohol consumption. Impact seen in years 1-2	84,000 – 194,000	SA population 15-20 years in 2017 is 5.4 million. 49%, or 2.6 million have ever had a drink. 3.2% - 7.4% of this is 84,000 – 194,000 people 15-20 years.
Number of people 15+ who are likely to reduce alcohol consumption. Impact seen from year 5.	500,000 – 1.2 million	SA population 15+ in 2017 is 39 797 118. 41%, or 16 316 818 people had an alcoholic drink in the past year. 3.2% - 7.4% of this is 500 000 – 1.2 million.
Number of hazardous drinkers who are likely to reduce their consumption (applied to 9.8% of South Africans 15+ who are hazardous drinkers)	290,000	SA population 15+ in 2017 is 39 797 118. 9.8%, or 3.9 million are hazardous drinkers. 7.5% reduction is 290,000.
Annual reduction in number of alcohol-related traffic fatalities due to alcohol	185 fewer deaths per year	In 2000, there were 6,166 alcohol-attributable traffic fatalities. A 3% reduction in deaths is 185 lives saved per year.

Sources: 1. Statistics SA mid-year population estimates (2017)

PART C

Likely economic impact

METHODOLOGICAL APPROACH: REMINDER

1 Method 1 - "Modelled"

Economy wide analysis (CGE modelling)

Description	This model of the economy which is able to assess the impact of a specific policy change across all major sectors and users in the economy over time. Our analysis uses Supply and Use Tables from StatsSA for the initial assessment of the alcohol sector's contributions to the economy, and a CGE model from the University of Pretoria for the impact forecasting.
Methodology	The regulatory change is implemented as a "shock" to the model by changing the path of the relevant affected variables (in this case, volume of alcohol) relative to a business-as-usual baseline scenario. We are then able to isolate and measure the effects of the policy change and display results in terms of percentage change deviations between the policy scenario and the baseline scenario.
Usefulness	The effects of the policy change are given at both a macro-level and alcohol industry level. "Winners" and "losers" are determined at this level of disaggregation. However, in this application, detailed sub-sector effects and substitution between, for example, alcoholic and non-alcoholic beverages are not explicitly modelled. These aspects may be addressed with additional research outside of the CGE model.

Throughout the presentation the yellow legend denotes the **Modelled Approach**

We use both of these methods together to get the most informed view of likely impact

2 Method 2 - "Researched"

Intra-economy analysis (research)

Description	This approach is a more granular assessment of the impact on sub-sectors of the economy and the dynamic changes between sectors.
Methodology	The researched approach uses: • Literature reviews; • Market analysis; • Competitive analysis; • Learnings from case studies, and • Consultation with stakeholders to form a view of the likely impact.
Usefulness	This approach provides a more nuanced view of the impact, which is not captured in the economy-wide model. It allows: • for impact on specific sub-sectors to be assessed more clearly; • for intra-economy dynamics to be understood; • for better identification of winners and losers; • for better analysis of unintended consequences; and • for better understanding of how regulatory harm can be mitigated. However, it can put too much emphasis on obvious harm to a sub-sector when the overall economy impact is positive and vice versa. It also has to rely on informed assumptions to fill in missing data. It is more qualitative which makes it difficult at times to arrive at exact numbers.

Throughout the presentation the yellow legend denotes the **Resarch Approach**

A Computable General Equilibrium (CGE) model for the South African economy is used to quantify aspects of the economic impact of the proposed regulatory changes.

Our modelling approach makes use of **Computable General Equilibrium (CGE) modelling**

to assess the impact of two proposed amendments to the proposed regulatory amendments:

Increasing the LDA from 18 to 21 years

Introducing advertising restrictions

What is a CGE model?
CGE models use a blueprint of the economy by combining detailed supply-use data and a sound theoretical specification of the behaviour of all agents. This allows the model to capture all the inter-relationships between key sectors and variables within the economy.

CGE model used for this impact study
The University of Pretoria General Equilibrium Model (UPGEM) is used to study economy-wide impact of policy changes on the South African economy.

Further considerations and limitations

- The current impact modelling includes two of the proposed regulatory changes i.e. increase in LDA and advertising restrictions. The remaining regulatory amendments are difficult to define and quantify through an economic modelling process. Attempting quantification of the vicarious liability and BEE requirements through an economic model would not be robust or reliable. These elements have therefore been analysed outside of the model.
- The economic modelling is limited to the formal alcohol sector only, as this is the information and data available through the System of National Accounts (SNA) from SSA and other official sources. We recommend that the informal and illicit alcohol sector be assessed in more detail to gain an understanding of the size of these markets and to assess the impact that the regulation could have more broadly.

- For this analysis we use a recursive-dynamic version of UPGEM similar to that described in Bohlmann et al. (2015).
- UPGEM was developed by researchers at the University of Pretoria in collaboration with the Centre of Policy Studies (CoPS) in Melbourne, Australia.
- The ability of CGE models, such as UPGEM, to recognise the many inter-linkages in the real economy, and account for price-induced behaviour and resource constraints in determining both the direct and indirect effects of an external shock on the economy over time, has made it one of the preferred methodologies for practical policy analysis around the world.
- CoPS-style CGE models such as UPGEM have been widely used for policy analysis and forecasting in many countries for over three decades. The credibility of these models are enhanced by their successful track record and transparency through publications such as Dixon & Rimmer (2002) and Dixon et al. (2013).

Source: Bohlmann et al (2015), Dixon & Rimmer (2002), Dixon et al (2013)

The economy-wide impacts are calculated for three scenarios

BASELINE SCENARIO: "Business-As-Usual"

The **business-as-usual** (BAU) baseline scenario follows the macroeconomic projections set by National Treasury (2017). No exogenous policy changes to the alcoholic beverages industry are imposed in this scenario. The standard forecast closure as described in Dixon & Rimmer (2002) and implemented in Bohlmann et al. (2015) is used. The baseline scenario is run up to 2025, with historical macro data for 2012-2016 used to update the model's 2011 database to current levels and annual projections for 2017-2025 used to complete the baseline. Projections for key macro variables from 2020-2025 are based on average long-term trends. The results of all policy scenarios are measured relative to this BAU scenario.

SCENARIO 1: Low Impact Scenario

In the low impact scenario **consumption of alcoholic beverages falls by 3.2% as a result of a reduction in the LDA and advertising restrictions.** The estimated reduction in consumption is based on international literature, case studies and stakeholder interviews.

The exogenous shock is imposed on the model's beverages & tobacco sector. Alcoholic beverages is a subset of this sector and the exogenous shock is weighted in line with the relative share that alcohol accounts for within the beverage & tobacco sector. The shock is introduced as a 0.8% reduction (on a weighted basis) in consumption of beverage & tobacco products, relative to the baseline.

In this scenario, it is expected that there will be relatively weak enforcement levels of the LDA in the formal sector and a reasonably easy migration of some youth drinkers from the licenced sector to unlicensed sector.

SCENARIO 2: High Impact Scenario

In the higher impact scenario **consumption of alcoholic beverages falls by 7.4% as a result of a reduction in the LDA and advertising restrictions.** The estimated reduction in consumption is based on international literature, case studies and stakeholder interviews.

The exogenous shock is imposed on the model's beverages & tobacco sector. Alcoholic beverages is a subset of this sector and the exogenous shock is weighted in line with the relative share that alcohol accounts for within the beverage & tobacco sector. The weighted shock is introduced as a 1.9% reduction in consumption of beverage & tobacco products, relative to the baseline.

In this scenario, it is expected that **better enforcement levels of the LDA in the formal sector and a minimal migration of youth drinkers from the licensed to the unlicensed sector combined with restrictions on advertising**.

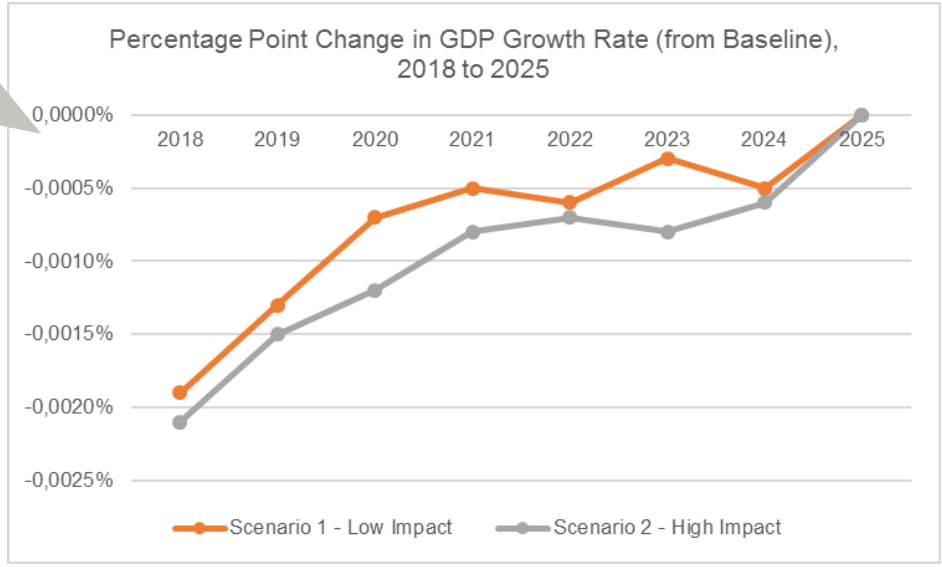
Baseline scenario | Low Impact Scenario | Low Impact Scenario

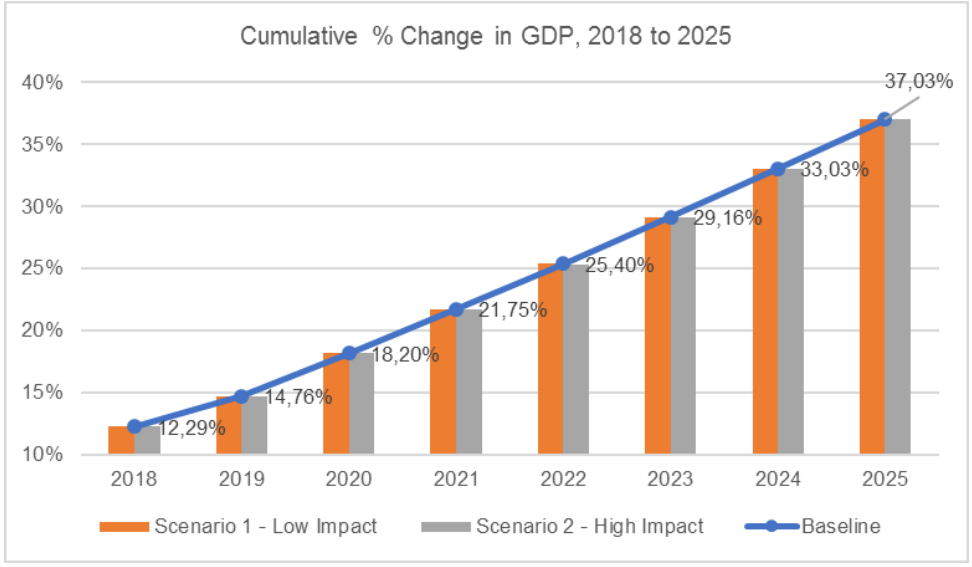
This colour legend will be used throughout the rest of the report

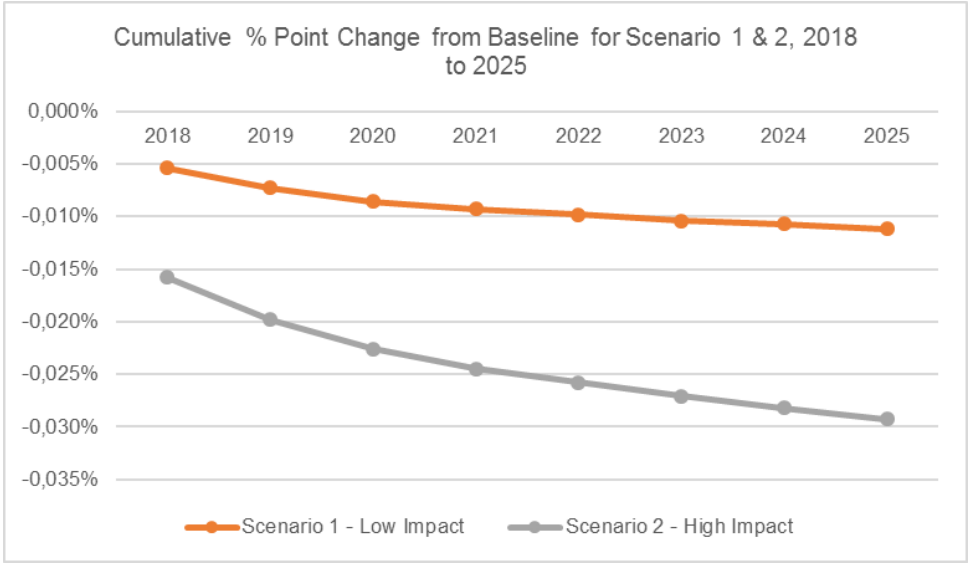
The potential **impact on national GDP will be extremely small** – real GDP is estimated to be **virtually unchanged by 2025** under both **low and high impact scenarios,** relative to the baseline

Decrease in the consumption of alcohol leads to a marginally negative impact on the alcohol, wholesale & retail trade sector. The reduced demand and smaller market for alcohol results in lower levels of economic activity in these two sectors which has a spillover impact into other related sectors. The reduction in economic activity results in marginally lower GDP.

- The Baseline Scenario shows a cumulative increase in GDP of 37.03% in 2025, relative to 2011.
- The **Low Impact Scenario** shows a marginal percentage point change from Baseline GDP of 0.006%.
- The **High Impact Scenario** also shows a marginal percentage point change from Baseline GDP of 0.008%.
- The economy adjusts over the review period and returns to Baseline growth rates by around 2025.

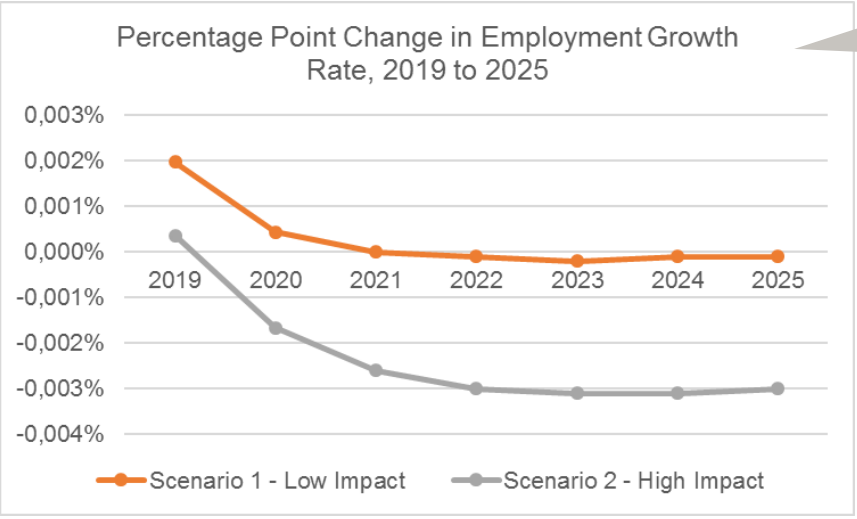






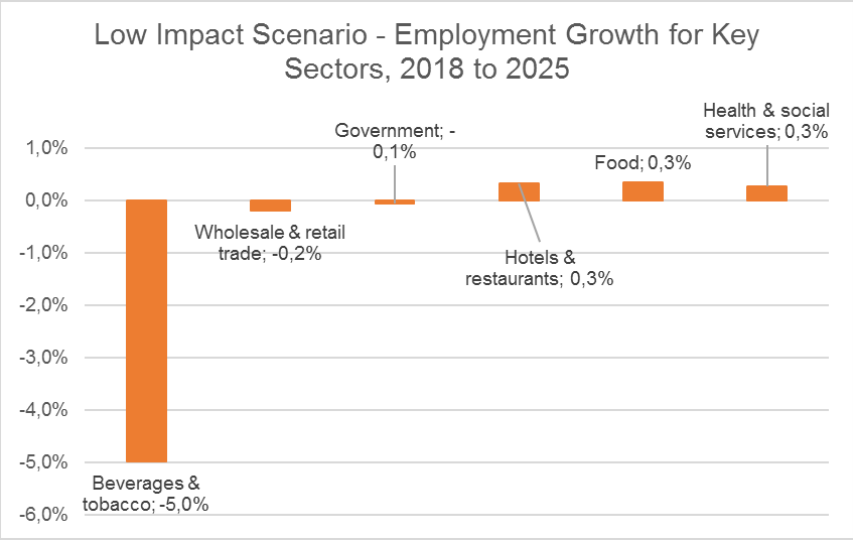
Source: UPGEM modelling

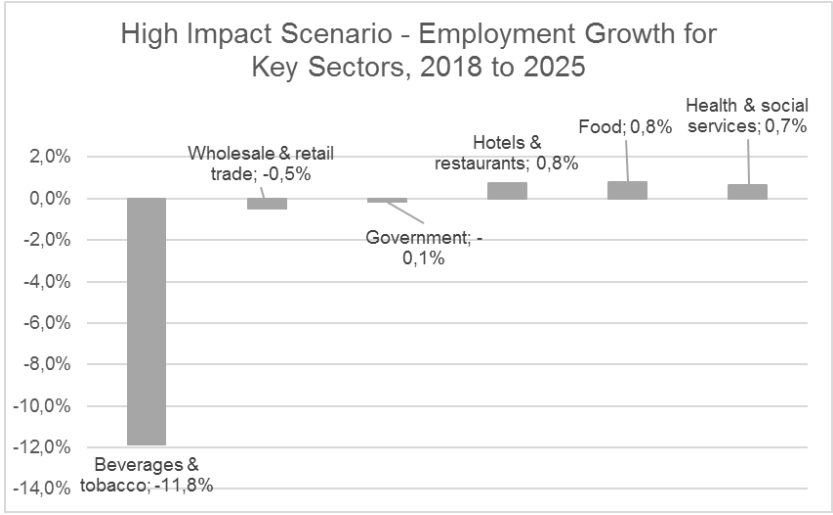
The potential negative impact on employment is concentrated in the alcohol sector – **almost no percentage point change for overall employment in the low impact scenario and a reduction of the employment growth rate of 0.016% in the high impact scenario**



Initially, the effect on overall employment is buffered by the drop in wage rates relative to the GDP deflator and investment price index. Once this effect dissipates, the medium to long-term impact on employment, relative to the baseline, is a slight negative.

- For the **Low Impact Scenario** the economy-wide impact on employment is marginal with almost no percentage point change from the Baseline projections for employment growth over time.
- The **High Impact Scenario** exhibits a negative but marginal percentage point change between the Baseline and the scenario. The average deviation in employment growth is negative 0.016% between 2018 and 2025, given the size of the work force in South Africa, this amounts to approximately 500 jobs.
- The employment impact is varied across the sectors with the beverages & tobacco (alcohol sector) and wholesale & retail trade showing a decline in employment growth for both scenarios. There are a number of other sectors that experience minor employment growth, including hotels & restaurants and food.

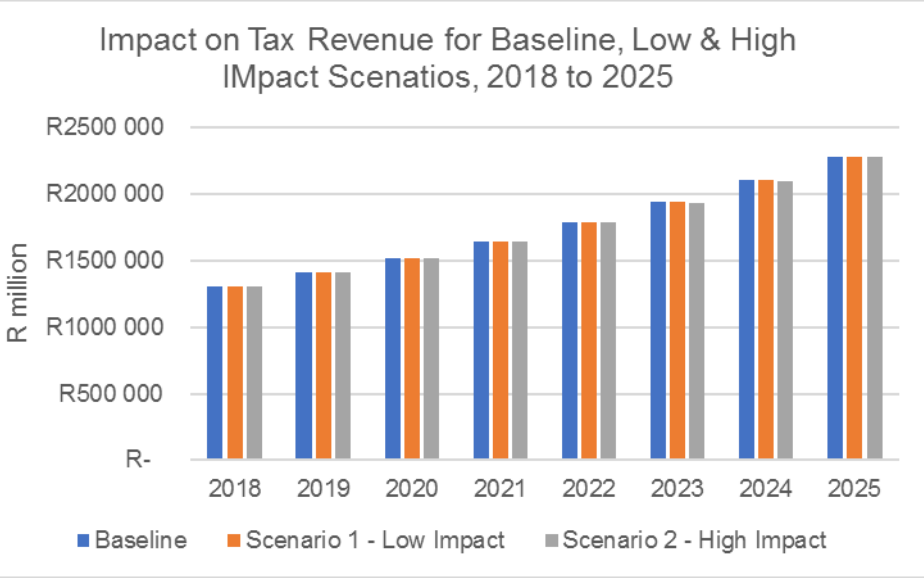


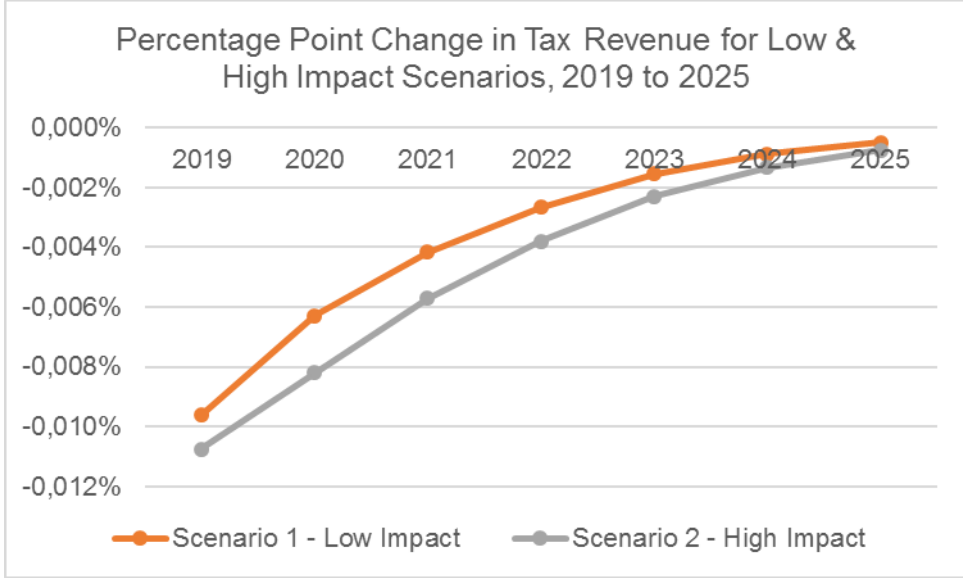


Source: UPGEM modelling

The economy-wide impact on tax revenue is estimated as a **small decline in revenue by 0.026% and 0.033% for the low and high impact scenarios** from 2018 to 2025

The economy-wide impact on tax revenue that is generated is small for both the Low and High Impact Scenarios. This impact is generated from the overall lower level of output produced at the national level as a result of the lower consumption and its spillover impact from the alcohol sector to other related sectors.

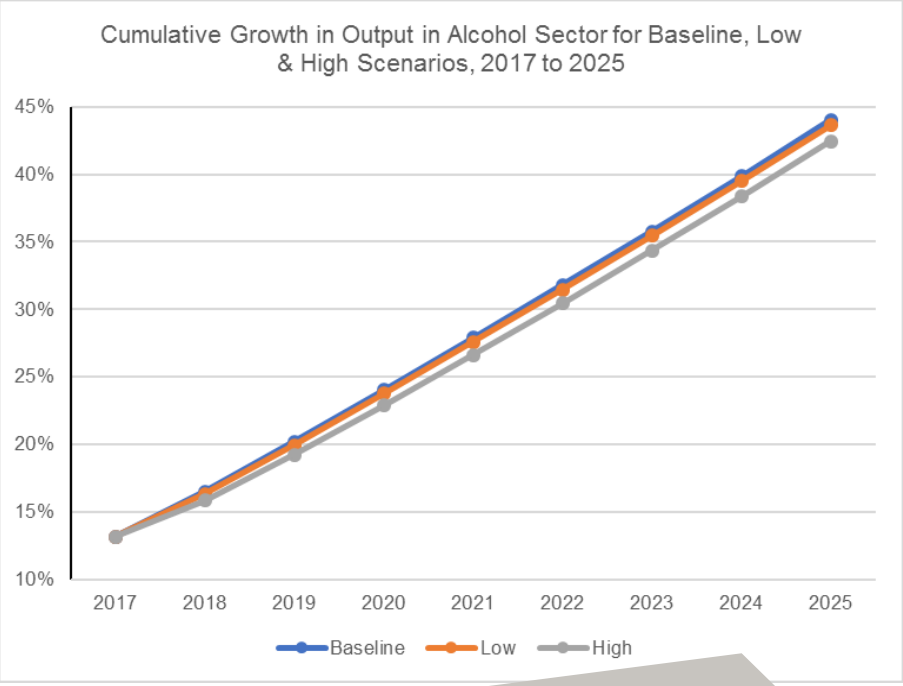


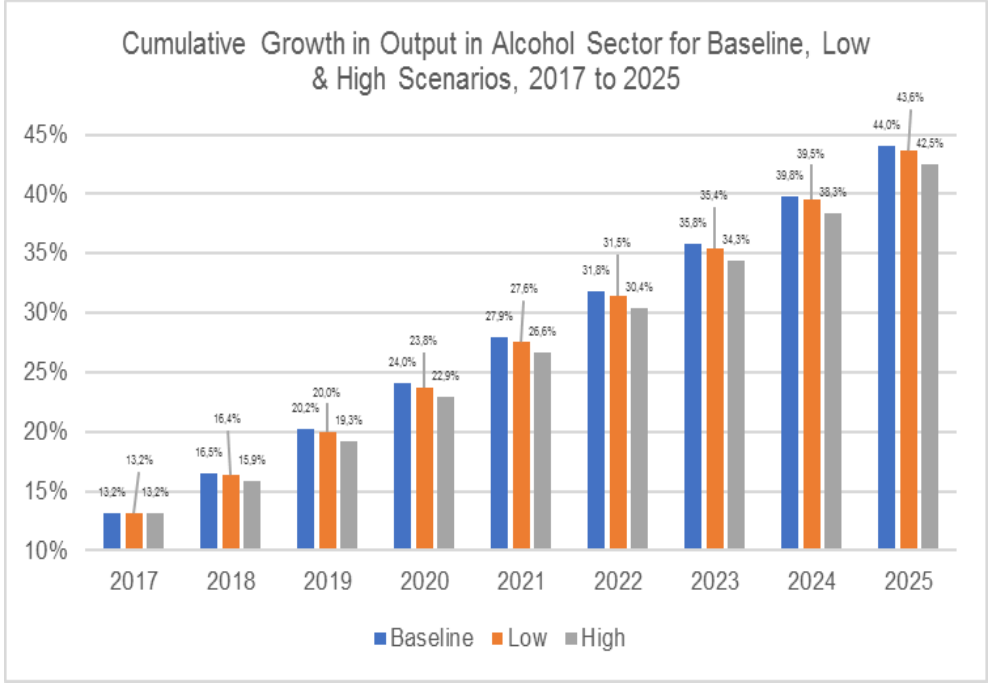


- In the Baseline it is expected that total tax revenue generated will be approximately R2.3 trillion by 2025. This is in line with the macroeconomic forecasts from National Treasury and the SARB.
- For the **Low Impact Scenario it is estimated that tax revenue will be 0.026 percentage points lower** relative to the Baseline.
- Whilst for the **High Impact Scenario it is estimated that tax revenue will be 0.033 percentage points lower** relative to the Baseline.
- The alcohol sector is expected to contribute R28.2 billion by 2025 in the Baseline Scenario. The largest component of tax revenue from the alcohol sector is derived from excise tax (86% in 2015/16) – the marginal reduction in tax revenue is therefore largely generated through a reduction in excise tax collected due to the reduction in alcohol consumed.

Source: UPGEM modelling, SARS & National Treasury

A reduction in consumption of alcohol results in a **reduction in the growth in output** for the alcohol industry in both the low and high impact scenarios relative to the baseline scenario



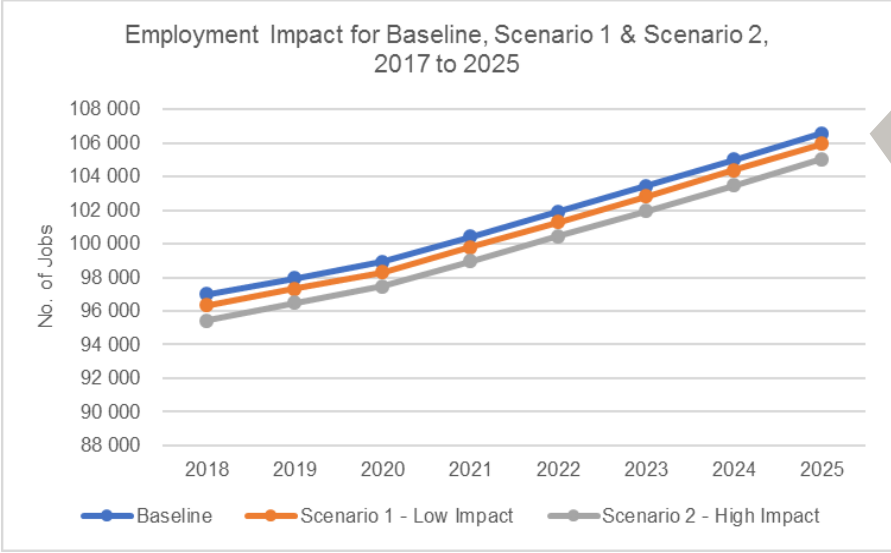


Proposed regulation translates into a small decline in alcohol consumption. Therefore, economic activity and output also reduces as producers respond to the reduced demand. The sector produces marginally less and therefore total industry output is lower by between 0.9% (Low Impact) and 2% (High Impact). Reduced demand results in a slight drop in the price of alcohol. Some of the demand that is reduced for alcohol is now diverted toward consumption of other goods.

- The Baseline Scenario shows that cumulative output growth, relative to 2011, for the beverage & tobacco sector is forecast to be 44% in 2025.
- For the **Low Impact Scenario** output is **0.9% lower than in the Baseline**. Cumulative growth is 43.2% by 2025, relative to 2011.
- The **High Impact Scenario** shows a similar trend of lower output growth; this time the corresponding higher rate of reduced demand manifests as a **2% reduction in output relative to the Baseline**. Cumulative growth in this scenario is 42% by 2025, relative to 2011.

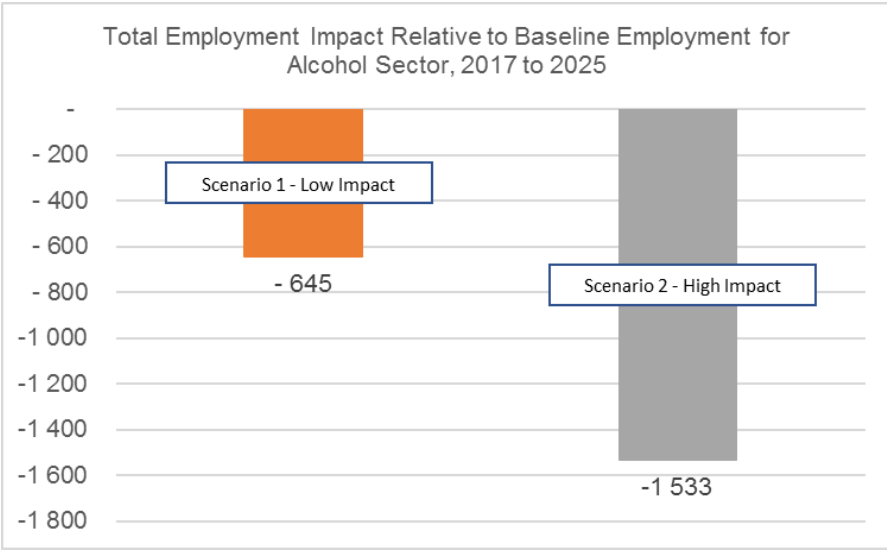
Source: UPGEM modelling results

A reduction in output in the alcohol sector results in a **reduction in employment between 2017 and 2025 in this sector by 0.62% and 1.48%** for the low and high impact scenarios respectively



Employment growth is closely linked to output growth or GDP. Reduced output and demand in the alcohol sector results in lower growth in employment between 2018 and 2025. Producers of alcohol could respond to the decreased demand by keeping employment constant and reducing wage growth in the short to medium term (due to the fall in the sector's marginal product value).

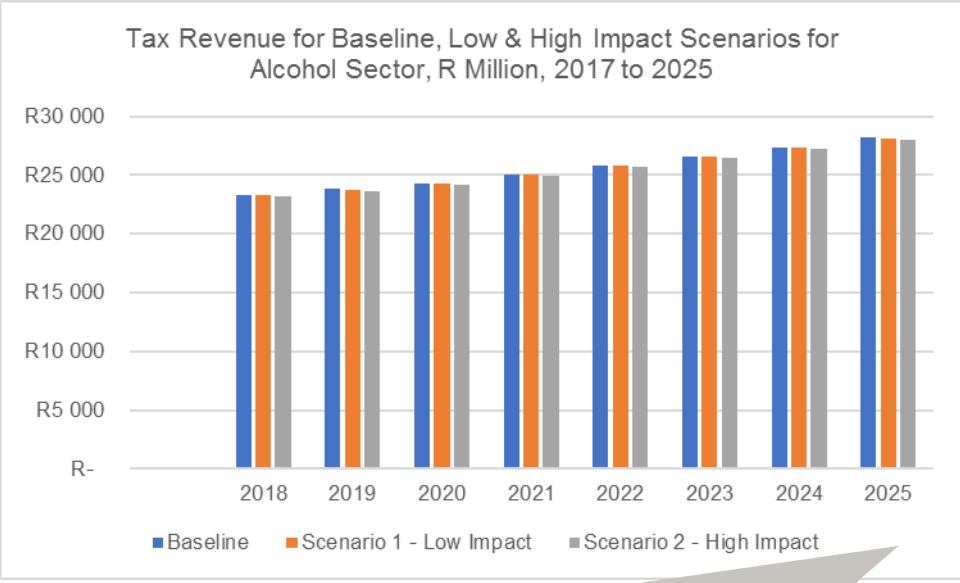
Employment growth in the alcohol sector mirrors employment growth estimated for the South African economy as a whole. However, employment growth in the sector will be lower in the Low and High Impact Scenarios, relative to the rest of the economy, as a result of direct impact of the policy on the sector.

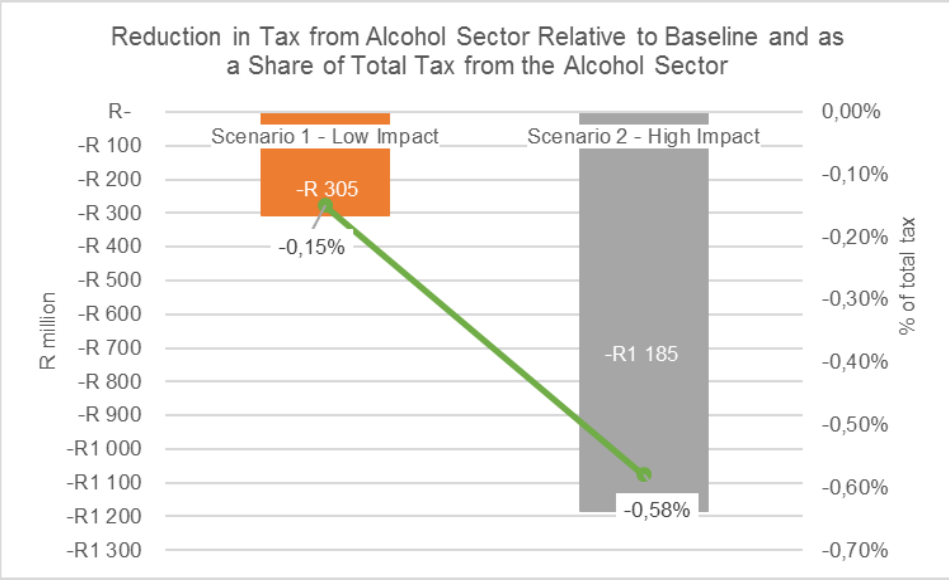


- **Employment in the alcohol sector in 2018 is estimated at 96,990 and forecast to increase to 106,585 by 2025.**
- Over the full review period, it is estimated that there will be a **reduction in potential employment opportunities of 645 and 1,553 direct employment opportunities for the Low and High Impact Scenarios respectively – this reduction amounts to 0.62% and 1.48% respectively.**
- It is important to note that these estimations assume that the alcohol sub-sector's share of employment in the beverage & tobacco main sector remains constant over the review period. The employment share is based on the relative share from 2009 as this is data that was available at the time of this study.

Source: UPGEM modelling, Econometrix, 2013

Tax revenue generated from the alcohol sector is estimated to **decline by 0.15% and 0.58% for the low and high impact scenarios** relative to the baseline projections





A decrease in economic activity within the alcohol sector leads to a decrease in the tax revenue that is generated from the sector for direct and indirect tax.

- The Baseline Scenario estimates that tax revenue collected from the sector will amount to R204.4 billion between 2017 and 2025.
- For the **Low Impact Scenario** tax revenue for the period of review is estimated at R204.1 billion. This amounts to a **0.15 percentage point decline relative to the total tax revenue collected from the alcohol sector**.
- For the **High Impact Scenario** tax revenue for the period of review is estimated at R203.3 billion. This amounts to a **0.58 percentage point decline relative to the total tax revenue collected from the alcohol sector**.

Source: UPGEM modelling, Econometrix, 2013

Impact dynamics of a ban on advertising on the media industries

R2 billion is currently spent on ATL alcohol advertising

Alcohol advertising is banned on all ATL platforms before 10pm

No data is recorded for current BTL spending

1 Alcohol manufacturers & distributors cut ATL budget by 50% (down to **R1 billion**)

The alcohol industry continues to spend **R1 billion** on ATL media

2 Additional **R1 billion** (previously spent on ATL advertising) is likely to be distributed as follows:

3 Other sectors (for example FMCG and retail) expand their ATL advertising and cover **R200 million (20%)**

Beneficiaries are both the media and advertising industries

4 Alcohol industry shifts to **BTL advertising and innovation** and spend **R800 million (80%)** on both

We estimate that about 5% of this would not flow into BTL as it would be lost due to the ban on the sponsorship of recreational activities.

R200 million (25%) goes towards product and market innovation

R600 million (75%) is spent on BTL and digital advertising

Estimated job losses have been calculated using sector employment multipliers from the National Treasury

5 **R200 million + 600 million = R800 million**

Total loss to the media industry: **R800 million** (equating to approx. 1 184 jobs)

The biggest losers are the media owners, especially the free-to-air stations, i.e. SABC and eTV

.

Over 80% of SABC revenue is generated from advertising

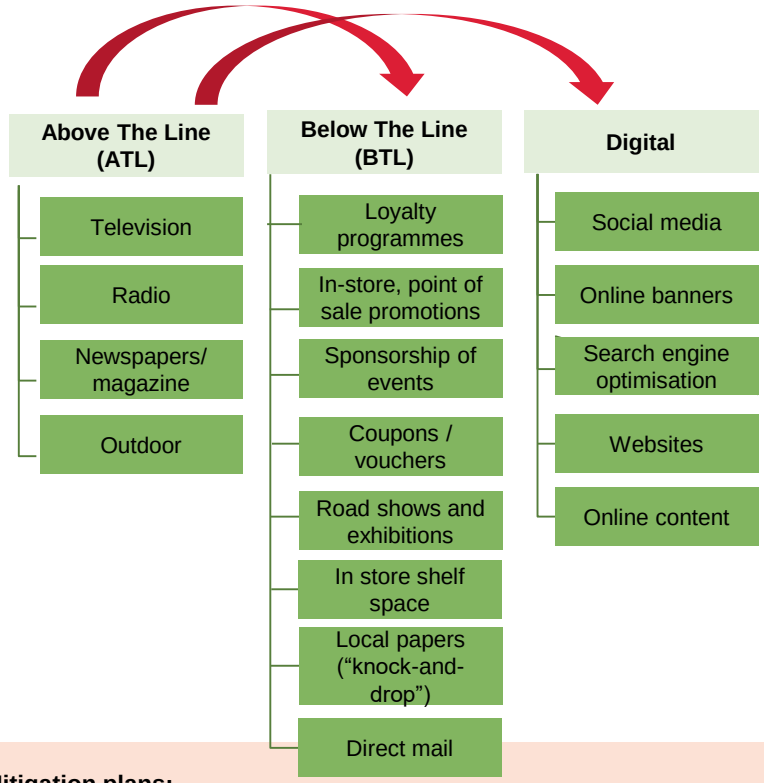
6 **To note:**

- It is unlikely that liquor companies will spend less on advertising overall, but would rather shift from ATL to BTL advertising
- The ban might encourage product innovation to ensure brand awareness
- It is unclear from the bill whether or not the ban of event sponsorship is included, hence it has been excluded from this report

Source: National Treasury, Budget Review, 2017

Impact on the advertising and media industries

Correspond to numbers on the previous slides



Mitigation plans:

- Health promotion advertising to replace some of the lost revenue, particularly on the free-to-air stations
- Delayed implementation, give companies a period to adjust to the amendments
- Phasing the implementation structure
- Ring-fencing some of the taxes received to cover initial losses
- Incentivize other sectors to advertise by reducing advertising costs

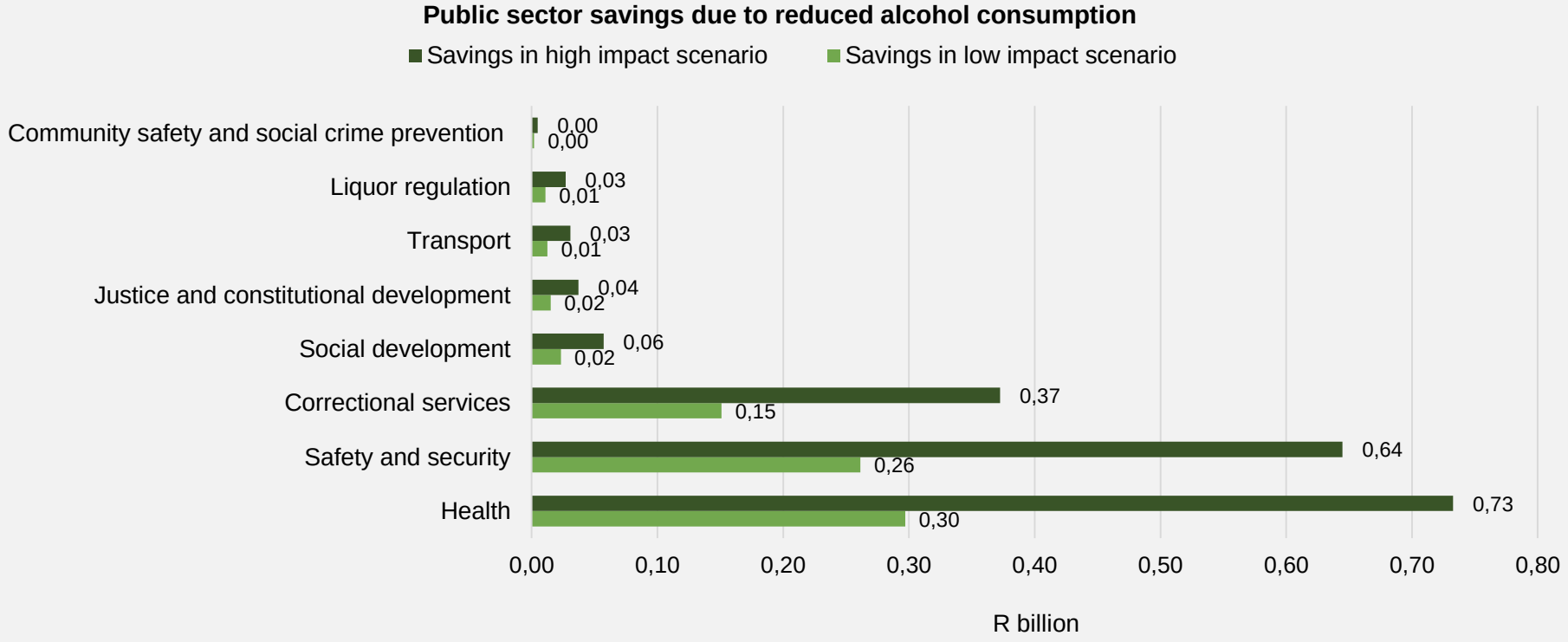
3 **Gap left by alcohol advertising** – other sectors (e.g. FMCG and retail) might fight for previous alcohol space (e.g. prime time television) OR demand for that space may decrease and the media industry will need to decrease the price of advertising space.

4 **Shift from ATL to BTL advertising and innovation**– there would be a significant move from television, radio and print media towards BTL alcohol advertising. This would require a shift in specialisation / skill utilisation across the advertising industry. There would also be a move to more product and marketing innovation, specifically point-of-sale innovation. Therefore a proportion of this BTL spend would not go to traditional advertising suppliers.

- **Impact on local programming** – there may be less money available to fund the production of local programmes, which will be felt most by smaller outsourced companies.
- **Change in programme content** – May cut or reduce the content available, or move towards different programming, based on where alcohol can be advertised for greatest reach at the appropriate time slot. i.e. reduced alcohol advertising revenue during sports programming, and increased revenue from music channels.

PUBLIC SECTOR IMPACT: REDUCED CONSUMPTION OF 3.2% - 7.4% RESULTS IN SAVINGS OF R0.7 – R1.9 BILLION FOR THE PUBLIC SECTOR

- Reduced alcohol consumption is expected to impact alcohol attributable costs directly with a 1:1 ratio. In other words, a 3% reduction in consumption (low impact scenario) will reduce alcohol-related spending by 3.2%.
- Based on Budlender's estimates of public spending attributable to alcohol consumption, calculated savings are R0.7 billion (low impact scenario) to R1.9 billion (high impact scenario). In both scenarios, 38% of savings would be realized in the Health sector, 34% in Safety and Security, and 20% in Social Development.
- These savings are likely to be redirected for alternate use in the relevant sector and may thus not be tangibly realised.
- This analysis does not take into account the cost reductions realised in the private sector.



Source: Budlender (2009)

Other economic impacts: consumer choice and industry competition

Impact on consumer choice:

- Advertising provides consumers with information about brands, product and price information. This empowers consumers to compare the price, quality and convenience of different products to find those that best meet their needs. This in turn improves market competition, and forces companies to innovate in quality product and compete on price. The net result of this is to make markets more competitive, which in turn, derives more consumer benefits.
- The advertising restrictions, as proposed, will reduce information for consumers about alcohol markets and the competitiveness of alcoholic products, which is ultimately bad for market competition in the sector. This also impacts negatively on responsible consumers who are not the target of policy interventions.
- On the other hand, if large retailers lose the ability to advertise price and promotional information to consumers, they will have to compete on other factors besides price. These could be convenience (which would be more stores) and a better customer experience (more attractive stores; free advice; free parking and so on).
- Thus on balance the loss of consumer power on price may be replaced with consumer benefits in access and quality of experience.

Impact on competition dynamics in alcohol industry

- *If ATL media and selected BTL media are closed to alcohol advertising, it's unlikely that alcohol companies will spend less on advertising*. Rather they will find new ways to reach consumers - either by new products or by new forms of commercial communication, including in ways not yet invented.
- Consultations with marketing experts predict that restrictions on ATL spending, as proposed, will lead to a migration of about half of ATL alcohol spending to BTL media and channels, of which about 75% will be new BTL media spending, and 25% will be marketing and product innovation.
- The ATL to BTL migration will have unintended consequences for competition in the industry. ATL is more economical per contact per consumer because of its mass reach but is very expensive in total spend value. BTL activities though not good for mass reach, and more expensive per contact per consumer, are nevertheless more affordably, especially for smaller firms.
- As a result, BTL marketing typically draws smaller manufacturers who do not have the large ATL budget; while ATL remains the preserve of large brand owners and the top five large alcohol manufactures and distributors. BTL is thus an important space for smaller companies to establish a niche presence in new brands that might challenge the large firms. An example is in a local off-licence. Presently a smaller company can promote at point of sale and secure shelf and floor space to support a fledgling brand, for instance, a new craft beer.
- The migration en masse from ATL to more BTL will lead to a crowding out of these smaller companies by larger companies as the big companies move more aggressively into BTL especially in-store. Thus store promotions and securing of shelf space will become a more important battleground, and retailers in general stand to benefit from more competition which will increase the price of promotional floor space and shelf space. This raises barriers of entry for new entrants, and SMEs in the alcohol industry will find it hard to break into established markets. This may have unintended consequences for transformation of the industry if black-owned companies are likely to be smaller companies.
- In short, the competitive effect will be in favour of large alcohol companies and retailers, while being against the interests of smaller companies. Advertising restrictions will thus have the effect of largely protecting and calcifying incumbent market share of dominant companies.
- The dti would be advised to notify the Competition Authorities of these predicted dynamics for monitoring.
- This is a concern in an industry that is already highly concentrated in manufacturing.

Sources: Herfindahl-Hirschman index (HHI) is a commonly accepted measure of market concentration. It is calculated by squaring the market share of each firm competing in a market, and then summing the resulting numbers, and can range from close to zero to 10,000.

FINAL SUMMARY
Impact of proposed change in legal drinking age + advertising restrictions

PUBLIC HEALTH AND SOCIAL IMPACT

1 Reduced Alcohol Consumption Estimates

- We estimate that the two policy changes **combined** will **reduce** alcohol consumption by **3.2% - 7.4%.**

2 This equates to reduced consumption of alcohol by:

- **84,00 – 194,000** South Africans 15-20 years in years 1 - 2
- **500,000 – 1.2 million** South Africans 15+ years after five years

3 Impact on Alcohol-attributable Traffic Fatalities

- **185 lives saved** per year due to a **3% reduction** in alcohol-attributable traffic fatalities

NB: difficult to translate percentage decrease in consumption into number of drinkers or specific harm reduction as the distribution of the reduction is not computable i.e.) who exactly will decrease their consumption and by how much.

ECONOMIC IMPACT

ECONOMY-WIDE IMPACT

Low Impact Scenario 2025

GDP: **0.006% off baseline**

Tax: **0.026% off baseline**

Employment: **negligible**

High Impact Scenario 2025

GDP: **0.006% off baseline**

Tax: **0.033% off baseline**

Employment: **0.016% (500 jobs off baseline)**

- First, a business-as-usual baseline scenario that excludes the policy change under investigation is modelled to 2025
- Then two impact scenarios are modelled based on estimates of consumption change.
- **Low impact scenario – alcohol volumes fall by 3.2%**
- **High impact scenario – alcohol volumes fall by 7.4%.**

ALCOHOL INDUSTRY

Low Impact Scenario 2025

Output : **0.9%**
Tax: **0.15%**
Employment: **0.62%**
645 jobs off baseline

High Impact Scenario 2025

Output: **2%**
Tax: **0.58%**
Employment: **1.48%**
1,533 jobs off baseline

Qualitative impacts

- ***Higher barriers to entry for small companies; less competition in the alcohol industry***
- ***Reduced consumer choice***

PUBLIC SECTOR CONSIDERATIONS

Alcohol-related harm accounts for 0.5% - 1.3% of GDP (R20 billion - R52 billion a year). Alcohol-related health costs are 5% of total public health spending

Cost of compliance and enforcement plan – not yet quantified

SABC is commercially insolvent

Policy changes likely to decrease public costs; difficult to quantify

Possible reduction in public health costs of R0.7bn (low scenario) to R1.9bn (high) (estimate)

ADVERTISING / MEDIA INDUSTRY

Advertising revenue: R400 million (1%)
Media revenue: R800 million
Shift in advertising dynamics
ATL → BTL & Digital
Biggest losers are SABC, etc and Multichoice; Biggest winners BTL and digital media agencies; integrated agencies
Advertising and media jobs: 688

Modelled
Researched
Treat with caution

ECONOMIC IMPACTS | SUMMARY

METHODOLOGY

- For economy-wide impact and alcohol sector impact, a Computable General Equilibrium model is used.
- For advertising and media sector impact, industry research is used.

ECONOMY-WIDE IMPACT

- First, a business-as-usual baseline scenario is modelled to 2025 that excludes the policy changes.
- The best estimate for the combined effect of change in legal drinking age (LDA) from 18 to 21 and advertising restrictions as proposed, is a reduction in the overall consumption of alcohol volumes by 3.2% to 7.4%.
- These values are modelled as two scenarios: 1) low impact (alcohol consumption falls by 3.2%); 2) high impact (alcohol consumption falls by 7.4%).
- In the low impact scenario the economy-wide impact is negligible. In the high-impact scenario we expect small economy-wide losses (500 jobs relative to the baseline scenario by 2025).

ALCOHOL INDUSTRY

- The impact on the alcohol industry is small over the medium term. By 2025, the alcohol industry could have 625 fewer jobs relative to the baseline projections in the low impact scenario, and potentially 1,533 fewer jobs relative to the baseline, in the high impact scenario. (In 2016, the industry directly employed 41,177 people).
- More pertinent is a negative impact on competition in the alcohol industry. As large alcohol companies move above-the-line (ATL) advertising spending to below-the-line (BTL) and digital channels, smaller alcohol companies will be crowded out, especially at point of sale as the price of promotional floor space and shelf space increases. This will raise barriers of entry for new entrants. SMEs and smaller alcohol companies will find it harder to break into the established market or introduce new brands. Advertising restrictions will thus have the effect of calcifying the incumbent market share of dominant companies.
- A second qualitative impact will be reduction in consumer choice.

ECONOMIC IMPACTS | SUMMARY

ADVERTISING AND MEDIA

- The impacts on the advertising and media industry are more immediate than on the alcohol industry.
- The impact of advertising restrictions will be a loss of about R800m of revenue to ATL advertising (about 2% of total advertising revenue p.a) though about 50% of this will be recovered by the industry shifting skills to BTL and digital media for alcohol advertising. Thus the advertising industry as a whole loses net revenue of about R400m (1% of 2016 ATL revenues).
- The impact on the media corporations is a loss of roughly R800million in ATL revenue, mostly from loss of television advertising. The biggest losers of media revenue are the SABC, etv, and Multichoice.
- About 688 jobs may be lost in advertising and media industries combined.

ADDITIONAL COST NOT QUANTIFIED

- Cost of enforcement plans by the state.
- Cost of private sector compliance with LDA.

HEALTH AND SOCIAL IMPACTS: SUMMARY

LIKELY IMPACT OF LDA AND ADVERTISING RESTRICTION

- To estimate the likely impact of the LDA and advertising restrictions on consumption volumes, we have drawn from the information gathered using **seven different methods** in each LDA and advertising.
- We estimate that the combined impact of LDA and advertising in South Africa will be **a 3.2% - 7.4%** reduction in alcohol consumption (total volumes) among drinkers aged 15+.

EFFECT ON CONSUMPTION

- It is difficult to translate reduction in total volumes into affected drinkers, or to specific harms reduced, as the distribution of the reduced total volumes cannot be predicted i.e.. exactly who will decrease their consumption and by how much.
    - However based on the literature we suggest the decrease is likely to be **highest in younger people and in heavy drinkers**.
    - We estimate that 84,000 – 194,000 people (15-20) are likely to reduce alcohol consumption in years 1-2
    - From year 5, we estimate that 500,000 – 1.2 million people 15+ are likely to reduce alcohol consumption.
    - We estimate that 290,000 hazardous drinkers are likely to reduce their consumption.

HEALTH IMPACT

- We estimate that **185 lives will be saved a year** due to a 3% reduction in alcohol-related road traffic fatalities.
- We are unable to quantify the impact on social outcomes associated with alcohol like transmission of HIV, crime, violence and gender-based violence but we expect a similarly proportioned reduction in incidence.

PUBLIC HEALTH COSTS

- It is difficult to translate percentage reduction in total volumes into specific public health savings as the distribution of the reduction cannot be predicted.
- However, the policy changes are likely to reduce public health costs.
- A conservative estimate would be reduction in public health costs of R0.7bn (low scenario) to R1.9bn (high scenario).

PART D

Alternative policy approaches and evidence of effectiveness

No one method can effectively reduce alcohol-related harm in South Africa.

The WHO Global Strategy 2011 to Reduce Harmful Use of Alcohol identifies seven principles:

1. Reduce affordability of alcohol through policies on taxation and price increases.
2. Reduce availability of alcohol by restricting or regulating the sale of alcohol to the public.
3. Reduce availability of alcohol by regulating the hours and days of trade.
4. Reduce alcohol consumption by children and young people by setting a minimum age for sale and purchase.
5. Monitor and enforce legislation and policy.
6. Reduce exposure to alcohol marketing.
7. Deter drinking and driving.

There is no single optimal strategy and interventions need to address the problem at multiple levels:

1. The host (drinkers);
2. The agent (alcohol); and,
3. The environment (the context of alcohol availability and accessibility).

Each country has its own set of complexities that need to be considered when designing policies to reduce alcohol-related harm

Africa's regional strategy needs to take cognisance of:

1. Low public awareness of alcohol harm;
2. High proportion of non-drinkers;
3. Risky consumption in drinkers;
4. Few African countries with recent policies;
5. Lack of monitoring systems;
6. **NGOs are not engaged;**
7. Health systems ignore alcohol; and,
8. Health personnel lack skill.

We look to the best practices of Malawi for guidance:

- Malawi was able to develop a working relationship between government agencies and NGOs. They developed a task force early in the process which constituted 50% government/police and 50% NGOs.
- They were able to share responsibilities and this all happened in a time of controversy with the president's views toward civil society.
- Malawi has orientated themselves well to begin implementation

Sources: 1. Endel (2012); 2. Parry, Myers and Thiede (2003); 3. WHO (2013)

Alternative policy approaches and effectiveness rating

POLICY AREA: ADVERTISING AND MARKETING

Proposed variation to amendment	Evidence for the implementation of the policy	Limitation of policy	Effectiveness rating[7]	Cost rating[7]	Support %[6]
Total ban on alcohol advertising and marketing	• A complete ban on media advertising is more effective than a partial ban (16.4% compared to 4% of alcohol-related mortality).[1] • No effect on short- term alcohol consumption.[7]	• BTL advertising, particularly social media- based; advertising is difficult to regulate; • Current policies are out-dated; • Regulated imported media is difficult; • Can be circumvented by product placement	①	③	**59%** (for a restriction)
Statutory regulation of advertising on content	• Experiences from New Zealand and Scotland have shown that if sanctions are not immediately and effectively enforced, the law is rendered meaningless.[2]				
Provider consumer with product information and warning labels to indicate the harm	• Evaluations find little evidence that the introduction of the warning label on alcoholic beverages in the United States had an impact on drinking behaviour[4.] • In general, it seemed that warnings could moderately influence behaviour, with consumers being more likely to comply when they were familiar with a product than not.[3] • A study across Australia, Canada, the United Kingdom and the United States found health warnings on tobacco products improved knowledge, which was strongly associated with intentions to quit among smokers.[3]	• Unclear evidence with regard to optimal warning labels.[5]	Lack of effectiveness	①	

① Limited effectiveness / low cost ② Moderate effectiveness / cost ③ High effectiveness / cost

Sources: 1. Hollingworth et al. (2006); 2. WHO (2011); 3. DHS (2008); 4. Wilkinson & Room (2009); 5. Jones & Gordon (2013); 6. Parry et al. (2017); 7. Babor et al. (2003)

Alternative policy approaches and effectiveness rating

A positive by-product of taxation is an increase in government revenue, which can be used to further fund countermeasures and health promotion.

POLICY AREA: PRICING POLICIES

Policy options	Evidence for the implementation of the policy	Limitation of policy	Effectiveness rating[9]	Cost rating[9]	Support %[10]
Increase taxation of alcohol	• Applying an excise tax of $1/6-pack of beer would result in a decrease of high habitual/heavy episodic drinking in 20 year olds (24.4% for males and 13.1% for females).[1] • Tobacco taxation in South Africa significantly reduced tobacco use with a noted 20% decrease from 1991-2001, with the greatest decrease in youth and middle-class black South Africans.[8] • A meta-analysis of 112 countries confirms that an increase in alcohol tax is associated with a decrease in drinking.[4] • For every R1/litre increase in the excise tax on beer, the price of beer increases by between R4.04 and R5.50/litre, on average. Increasing the retail price by more than the increase in the excise tax, amplifies the consumption-reducing effect of the increase in the excise tax.[7] • A tax increase has shown to affect rates of cirrhosis mortality, alcohol-related road traffic and crime. [9]	• An increase in tax may result in expansion of illegal and illicit alcohol. • The price of smaller beer cans (330ml) will be greater relative to larger cans (750ml). • Greater tax burden on the poor. • Effectiveness depends on government oversight and control of alcohol production and distributions.	③	①	**54%** (alcohol treatment); **58%** (government purposes) **55%** (lower other taxes); **57%** (tax drinkers for harms to society)
Increase price of alcohol	• Price increases for alcoholic beverages lead to reduced alcohol consumption, both in the general population and in certain high-risk populations, such as heavier drinkers or adolescents and young adults.[2] • Setting a minimum price per gram of alcohol reduces consumption and alcohol-related harm.[3] • A price increase and setting a minimum price have a greater impact on drinkers who consume more.[3] • An increase in tobacco excise tax resulted in an increase in the price per cigarette, which contributed toward the reduction of smoking in South Africa.				**34%**

Sources: 1. Hollingworth et al. (2006); 2 Xu and Chaloupka (2011); 3. WHO (2010); 4. Anderson et al. (2009); 5. Hahn et al. (2010); 6. Middleton et al. (2010); 7. Russel and van Walbeek (2016); 8. van Walbeek (2003); 9. Babor et al. (2003); 10. Parry et al. (2017)

Alternative policy approaches and effectiveness rating

POLICY AREA: AVAILABILITY POLICIES					
Policy options	**Evidence for the implementation of the policy**	**Limitation of policy**	**Effectiveness rating[9]**	**Cost rating[9]**	**Support %[11]**
Restricting trading hours/days	• Restricting alcohol trading hours by two or more hours is associated with reduced alcohol consumption and fewer alcohol-related harms, such as homicides and assaults (systematic review findings)[5,6] • Recommended by several international bodies, e.g. WHO.	• Effective under certain circumstances.	②	①	**62%** (bars); **60%** (stores); **31%** (hotels)
Restricting the density of outlets	• An increased density of alcohol outlets is associated with increased levels of alcohol consumption in young people, increase levels of assault, and other harm (homicide, child abuse and neglect, self-inflicted injury and road traffic injuries).[3]	• Requires a longer time course for implementation when drinking establishments have become concentrated because of vested economic interests.	②	①	**66%**
Restricting serving alcohol to already intoxicated customers	• Responsible beverage service (RSB) training, which focuses on the attitudes, knowledge, skills and practices of persons selling alcohol, can reduce heavy consumption and high-risk drinking if supported by service policies and reinforced by policing.[10]	• Training alone is insufficient, outside enforcement is essential.	①	②	

Sources: 1. Hollingworth et al. (2006); 2 Xu and Chaloupka (2011); 3. WHO (2010); 4. Anderson et al. (2009); 5. Hahn et al. (2010); 6. Middleton et al. (2010); 7. Russel and van Walbeek (2016); 8. van Walbeek (2003); 9. Babor et al. (2003); 10. Lang et al. (1998); 11. Parry et al. (2017)

Alternative policy approaches and effectiveness rating

POLICY AREA: DRINK DRIVING POLICIES					
Policy options	**Evidence for the implementation of the policy**	**Limitation of policy**	**Effectiveness rating[12]**	**Cost rating[12]**	**Support %[13]**
0% BAC tolerance for new drivers	• For young and inexperienced drivers, the crash risks are higher relative to older more experienced drivers and rise with an increasing BAC. At any BAC, drivers aged 16–20 years are three times more likely to crash than drivers who are older than 30 years.[4,5] • A review of published studies found that laws establishing lower BAC limits of between 0-0.02g/dl for young and inexperienced drivers can lead to reduction in crashes between 4% and 24%.[4]	• Requires very strict enforcement, with increased breath testing.	②	①	
Reducing the limit for BAC to 0.02g/dL	• Evidence shows that reducing the BAC from 0.05g/dL to 0.02g/dL is effective in reducing drink-driving casualties.[3] • The relative risk of being involved in a fatal crash as a driver is 4–10 times greater for drivers with BACs of 0.05–0.07g/dL, compared to drivers with 0.00g/dL BACs.[4] • International evidence: – In Japan, the lowering of the BAC 0.05 to 0.03 showed significant reductions in all alcohol- and non-alcohol-related traffic injuries.[4] – In 2006, Brazil reduced its BAC from 0.06g/dL to 0.02g/dL which resulted in a significant reduction in traffic injury and fatality rates. – Ireland's large reduction in drink-driving deaths – from 37% in 2003, to 14% in 2007 – was largely achieved by lowering the BAC limit. – Sweden saw a 10% reduction in fatal crashes related to drink-driving after the change to their BAC.[7]	• Scepticism about whether this would have an effect as there are concerns on whether SA can currently monitor and convict drivers above a 0.05g/dL limit.	③	①	**58%**
Suspension of drivers license	• In the US, Wagenaar et al. (2007), compared 26 years of federal crash data from 46 states with driver's license suspension laws, estimating the impact of suspension laws on alcohol-related accidents. Their findings confirm that laws mandating immediate license suspension reduce the number of drink-driving fatalities by 5%, indicating that the measures appear to encourage people to hesitate before drinking and driving.	• Suspension of a drivers license instantly following a breathalyser test has implications for people's rights.	②	②	**76%**

Sources: 4. Peden et al. (2008); 5. WHO (2007); 6. Shults RA et al. (2001); 7. WHO (2004); 8. Zador et al. (2000); 9. National Road Safety Strategy (2017); 10. Wagenaar et al. (2007) 11. Andreuccetti G et al. (2011); 12. Babor et al. (2003); 13. Parry et al. (2017)

Comments from consultations

“Restricting the availability of alcohol through changing the times of sales by two hours in either direction will have an impact on consumption”.

“The informal alcohol sector in South Africa makes tax and availability restrictions useless”.

“America has a deemed-approved system for which outlets have to pay a fee”.

“Brief interventions are downstream, and while they need to be in place, upstream interventions are also important”.

“Supply-side restrictions that prevent volume-based sales are very important”.

“Tax and minimum unit price will impact on alcohol affordability, they will compliment the proposed measures, but should be implemented as alternatives”.

Conclusion: The WHO guidelines should be adapted to South Africa. Interventions are needed at all levels of the social-ecological model in order to reduce hazardous alcohol use.

1. Work with owners of alcohol establishments to make them safer according to the ten-point plan developed by Soul City and which builds on the National Liquor Norms and Standards of the 2003 National Liquor Act
2. Apply zoning restrictions to alcohol establishments to reduce availability of alcohol
3. Enforcement

1. Restriction on marketing of alcohol prioritising children and youths
2. Staggered introduction of increase in LDA with strong M&E
3. Regulated point of sales, mandatory ID and a centralised database of national purchase
4. Taxation at a production level
5. Drink driving policies and countermeasures
6. Enforcement plan

1. Integrate brief interventions for risky drinkers into primary health care
2. Targeted mass media campaigns addressing hazardous drinking.
3. Awareness raising of the DOH's food-based dietary guidelines

1. Community mobilisation to create safer drinking spaces and a supportive environment for safe drinking
2. Enhance enforcement of existing legislation
3. Schools' education

Sources: 1. Kaner et al (2007) 2. DOH (2004) 3. Fisher (2010) 4.Soul City (2014) 5. Soul City (2010)

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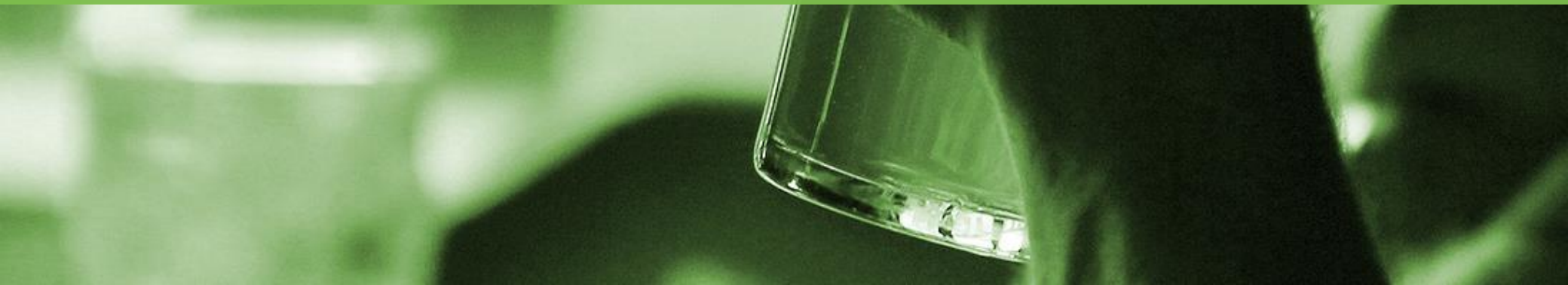
Appendix 1

Stakeholder Consultations



COMPLETED CONSULTATIONS WITH **GOVERNMENT REPRESENTATIVES**

Name	Position	Organisation
Clementine Makaepea	Director of Policy and Legislation	Department of Trade and Industry
Pregoria Mabaso-Muvhango	Director Legislative drafting	
Mokgadi Mathonzi	Senior Manager	
Jacob Maphutha	Director of Black Economic Empowerment	
Khathu Mudau	CCRD: National Liquor Authority	
Dirk Aspeling	Deputy Director of Legal Support and Enforcement: National Liquor Authority	
Prea Ramdhuny	Chief Director: National Liquor Authority	
Lindiwe Mavundla	Director: Registrations National Liquor Authority	
Prof Melvyn Freeman	Chief Director of the Non-communicable Diseases	National Department of Health
Vimla Moodley	Director of Health Promotion	

COMPLETED CONSULTATIONS WITH **MANUFACTURERS AND DISTRIBUTORS**

Name	Position	Organisation
Paul Scanlon	Managing Director	Pernod Ricard
Chris Reddy	Operations Director Sub Sahara Africa	
Dirk Conradie	Corporate & Public Affairs Manager	
Garth Watson	Strategy & Planning Manager	
John Beale	Media Manager	
Kerry Nunes	Personal Assistant to Managing Director	
Zodwa Velleman	Corporate Affairs Director	Heineken
Sanele Shabalala	Public Policy Manager	
Carin Fouche	Group Manager of Corporate Strategy	Distell
Bridgitte Backman	Executive of Public Affairs and Public Policy	
Praveshan Naidoo	Manager of Licence to Trade Strategy	
Melissa van Rensburg	Corporate Strategy Analyst	
Jeff Milliken	Managing Director	DIAGEO
Sibani Mngadi	Corporate Relations Director	

COMPLETED CONSULTATIONS WITH **MANUFACTURERS AND DISTRIBUTORS** CONTINUED

Name	Position	Organisation
Yvette van der Merwe	Executive Manager	SA Wine Industry Information and Systems NPC (SAWIS)
Iain Hooper	Managing Director	Edward Snell & Co.
Ken Allan	Executive Director	KWV
Kurt Moore	CEO	South African Liquor Brand Owners Association (SALBA)
Nirishi Trikamjee	Director Corporate Affairs	SAB AB InBev
Anthea Jefthas	PPM Director, Legal & Corporate Affairs	
Grant Pereira	Insights Director	
Takalani Phinah Mukwevho	Public Affairs and Regulatory Manager	
Rico Basson	Managing Director	VInpro
Christo Conradie	Wine Cellars/Agricultural Economy	
Paiter Botha	Compliance and Special projects	

COMPLETED CONSULTATIONS WITH **RETAILERS**

Name	Position	Organisation
Churchill Mrasi	President	South African Leisure, Tourism and Hospitality Association (SALTA)
Gavin Levers	Group Manager of the Liquor Division	Pick ‘n Pay
Melita von Bentheim	Senior Legal Advisor	Woolworths
Lisa Brits	Group Risk & Compliance Manager	Shoprite Checkers (Pty) Ltd
Jean Marais	Operations Manager	
Natasia Nel	National Technical Food Safety Manager	
Warran Dukas	Compliance Officer	
Bruce Cayzer	Food Executive: Chairman of Massmart Food Forum	Massmart
Kissinger Maponya	Group Merchandise Lead (Fresh Produce & Beverages) at Massmart Holdings	
Patricia Pillay	Head of Legislative affairs & Retail council	Consumer Goods Council of South Africa
Lizelle Gilliland	Executive Personal Assistant to CEO & Head of Stakeholder Engagement & Legal	

COMPLETED CONSULTATIONS WITH HEALTH AND ALCOHOL **EXPERTS**

Name	Position	Organisation
Local health experts		
Prof Charles Parry	Director of Alcohol, Tobacco and other Drug Research Unit	Medical Research Council (MRC)
Richard Matzapolous	Senior Specialist Scientist for the Burden of Disease	Medical Research Council (MRC)
International health experts		
Prof Sally Casswell	WHO Expert Advisory Panel on Alcohol and Drug Dependence and Chair of the Global Alcohol Policy Alliance (GAPA)	Global Alcohol Policy Alliance (GAPA)
Associate Professor David Jernigan	Director	Centre for Marketing and Youth at the Johns Hopkins Bloomberg School of Public Health
Dag Endal	Programme Manger	FORUT
Local economic experts		
Prof Corne van Walbeek	School of Economics Research Associate	University of Cape Town South African Labour and Development Research Unit (SALDRU)
Johannes Jordaan	Chief economist	Economic Modelling Solutions

COMPLETED CONSULTATIONS WITH **CIVIL SOCIETY REPRESENTATIVES**

Name	Position	Organisation
Matthew Parks	Parliamentary Coordinator	COSATU
Dr Yussuf Saloojee	Executive Director	National Council Against Smoking (NCAS)
Savera Kalideen	Executive Director	
Aadielah Maker	Board Coordinator	Southern Africa Alcohol Policy Alliance (SAAPA)
Dr Sue Goldstein	Programme Director	Soul City Institute for Health and Social Development Communication
Lebogang Letsela	M&E Officer	
Dr Renay Weiner	Former Executive of Strategic Integration	
Kerry Cullinan	Managing Editor	Health-e News
Leana Olivier	National Manager	Foundation for Alcohol Related Research (FARR)

COMPLETED CONSULTATIONS WITH **ADVERTISING AND MEDIA**

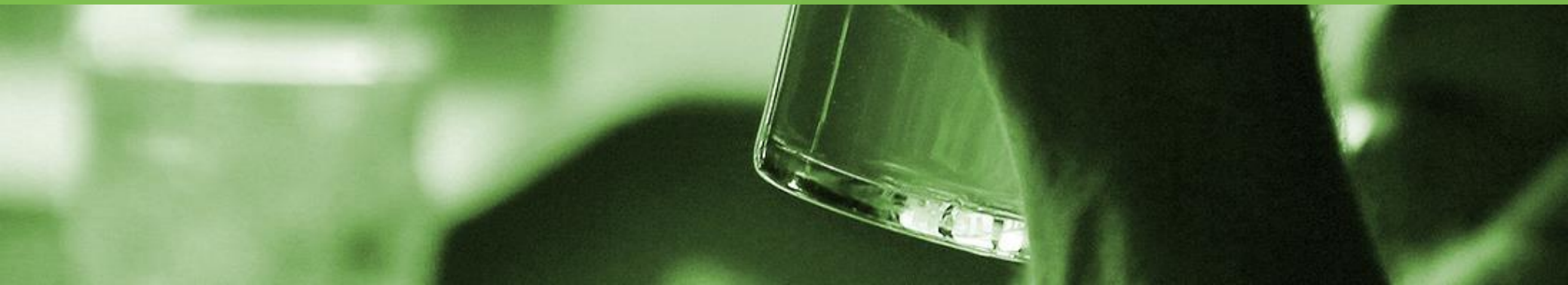
Name	Position	Organisation
Tshifhiwa Mulaudzi	Group Executive of Commercial Enterprise	SABC
Reardon Sanderson	Group General Manager of Sales and Marketing	Tiso Blackstar
Jonathan Cooke	Advertising Sales Manager	eTV
Chris Hitchings	CEO of DSTV Media Sales	Multichoice
Matthew Barnes	Executive Creative Director of Digital	Ogilvy
Karen Phelan	Board member	AMF
Andrew Maluleka	Chair	AMASA

UNSUCCESSFUL CONSULTATIONS:
ATTEMPTS WERE MADE TO CONTACT THE FOLLOWING PERSONNEL AND ORGANISATIONS

Name	Position	Organisation
Elliot Mashile	CEO	KZN Gambling and Liquor Authority
Siva Naidoo	Manager of Communications	
Raymond Martin	Chief Director	Gauteng Liquor Board
Kanyiswe Mkonza	Personal Assistant: Office of the Chief Director	
Emily Sithole		
Paseka Matlhaku	Deputy Director	
Witness Khanye	Liquor and Trade Inspector	
Philip Prinsloo	Head of Communication, Education and Stakeholder Relations	Western Cape Liquor Authority
Johan Dreyer	Company Secretary	
Mphuthi Mphuthi	Chairman	Soweto Business Access
Mark Robinson (ill)	Group Manager of the Liquor Division	Spar

Appendix 2

Economic Modelling Methodology



Methodology & approach for economic impact modelling

Economy-wide impact modelling

- Our modelling approach makes use of Computable General Equilibrium (CGE) modelling to assess the impact of two proposed amendments to the proposed regulatory amendments:
  1. Increasing the LDA from 18 to 21 years
  2. Introducing advertising restrictions

- CGE models provide a blueprint of the economy by combining detailed supply-use data and a sound theoretical specification of the behaviour of all agents. This allows the model capture all the inter-relationships between key sectors and variables within the economy.
- The University of Pretoria General Equilibrium Model (UPGEM) is used to conduct economy-wide analysis of policy changes on the South African economy. UPGEM was developed by researchers at the University of Pretoria in collaboration with the Centre of Policy Studies (CoPS) in Melbourne, Australia.
- For this analysis we use a recursive-dynamic version of UPGEM similar to that described in Bohlmann et al. (2015).
- The ability of CGE models, such as UPGEM, to recognise the many inter-linkages in the real economy, and account for price-induced behaviour and resource constraints in determining both the direct and indirect effects of an external shock on the economy over time, has made it one of the preferred methodologies for practical policy analysis around the world.
- CoPS-style CGE models such as UPGEM have been widely used for policy analysis and forecasting in many countries for over three decades. The credibility of these models are enhanced by their successful track record and transparency through publications such as Dixon & Rimmer (2002) and Dixon et al. (2013).

UPGEM Core Database Structure (1)

		Absorption Matrix (Use Table)						
		1	2	3	4	5	6	7
		Producers	Investors	Household	Export	GenGov	Stocks	Total
	Size	IND	IND	HOU	1	1	1	All Users
Basic Flows	COMxSRC	V1BAS	V2BAS	V3BAS	V4BAS	V5BAS	V6BAS	V0BAS Basic
Margins	COMx SRCxMAR	V1MAR	V2MAR	V3MAR	V4MAR	V5MAR	n/a	V0MAR Margins
Indirect Taxes	COMxSRC	V1TAX	V2TAX	V3TAX	V4TAX	V5TAX	n/a	V0TAX TLSP
BAS + MAR + TAX = PUR Values	COM	V1PUR Intermed Use	V2PUR Investment	V3PUR Priv Cons	V4PUR Exports	V5PUR Pub Cons	V6BAS Stocks	Total COM Demand
Labour Costs	OCC	V1LAB						
Production Taxes	1	V1PTX						
Capital Rentals	1	V1CAP						
V1PUR + V1PRIM = Total Cost	1	Total IND Costs						

	Production Matrix (Supply Table)				
Size	IND	1	1	1	All Sources
COM	MAKE Supply Table	V0IMP Imports	V0MAR Margins	V0TAX TLSP	Total COM Supply
1	Total IND Sales				

The UPGEM database structure has two main parts: an **absorption matrix**; and a **joint-production matrix**.

The absorption matrix simultaneously shows total industry costs and total commodity demand across all users. The production matrix simultaneously shows total industry sales and total commodity supply.

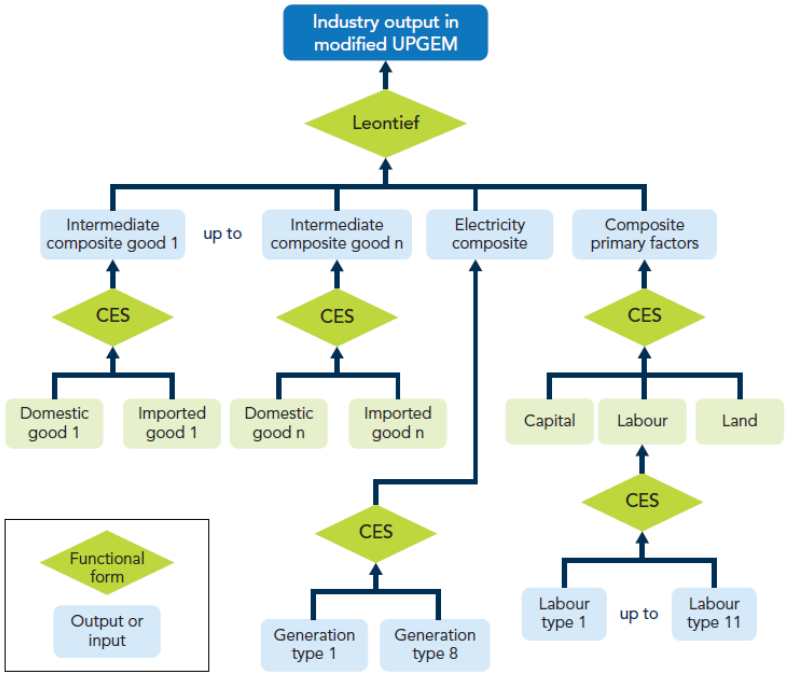
Source: Bohlmann et al (2015)

UPGEM Core Database Structure (2)

- The main data source for the core UPGEM database is the **supply-use table, published by Statistics South Africa.**
- The first row in the absorption matrix, V1BAS,…, V6BAS, shows flows in the base year of commodities to producers, investors, households, exports, government consumption and inventory accumulation. Each of these matrices has COMxSRC rows, one for each of COM commodities from SRC sources.
- V1BAS and V2BAS each have IND columns where IND is the number of industries. The typical component of V1BAS is the value of good (i) from source (s) used by industry (j) as an input to current production, and the typical component of V2BAS is the value of (i,s) used to create capital for industry (j). V3BAS to V6BAS typically each have one column, which refers to one representative household, one foreign buyer, one category of public demand and one category of inventory demand. These dimensions can be extended if necessary, for example, the single representative household may be split according to HOU number of household categories based on detailed income or ethnic group information found in social accounting matrices.
- All of the flows in V1BAS,…, V6BAS are valued at basic prices. The basic price of a domestically produced good is the price received by the producer (that is the price paid by users excluding sales taxes, transport costs and other margin costs). The basic price of an imported good is the landed-duty-paid price, i.e., the price at the port of entry just after the commodity has cleared customs.
- Payments by industries for labour by occupation (OCC) or skill group are recorded in the matrix V1LAB, whilst payments by industries for the use of capital and land are recorded in the vectors V1CAP. The vector V1PTX shows collections of net taxes on production. We may also include a vector V1OCT (not shown here) to capture other industry costs not elsewhere classified, where appropriate.
- The remaining data item is the joint-product matrix, MAKE, has dimensions COMxIND and its typical component is the output of commodity (c) by industry (i), valued in basic prices. The content of the MAKE matrix is equivalent to the supply table.
- Together, the absorption and joint-production matrices satisfy two balancing conditions. First, the column sums of MAKE (values of industry outputs) are identical to the values of industry inputs. Hence, the j-th column sum of MAKE equals the j-th column sum of V1BAS, V1MAR, V1TAX, V1LAB, V1CAP and V1PTX. Second, the row sums of MAKE (basic values of outputs of domestic commodities) are identical to basic values of demands for domestic commodities. If i is a non-margin commodity, then the i-th row sum of MAKE is equal to the sum across the (i,“dom”)-rows of V1BAS to V6BAS.
- The presentation of the figure on the previous slide also highlights certain national accounting conventions. The green cells indicate the value of total industry costs across all categories; and total industry sales of domestically produced commodities. As noted above, the column totals for each industry in both the cost and sales matrices should match. Similarly, the blue cells indicate the value of total commodity demand across all users; and total commodity supply from all sources, at purchasers prices. As a balancing condition, the row totals for each commodity in both the demand and supply matrices should match.

Source: Bohlmann et al (2015)

UPGEM Production Structure



- The nested production structure in UPGEM allows the many optimisation problems and 'decisions' industries must make to be manageable.
- Industries in UPGEM are modelled to combine various composite intermediate goods, including an optional electricity composite, in fixed proportion to composite primary factor bundles.
- For each top-level composite in the production recipe, Constant Elasticity of Substitution (CES) sub-nests allow price-induced substitution between imported and domestically produced versions of each good, electricity generation types (not included in this version of UPGEM), primary factors and labour types.

Agriculture	Electricity
Coal Mining	Water
Mining of Metal Ores	Construction
Other Mining	Trade
Food	Hotels and Restaurants
Beverages and Tobacco	Transport Services
Textiles, Leather and Footwear	Post and Telecommuncation Servic
Petroleum and Chemicals	Business Services
Basic Iron and Steel	General Government Activities
Other Metal Products and Equipment	Education
Electrical Machinery	Health and Social Work
Transport Equipment	Other Service Activities
Other Manufacturing	

List of industries and commodities used in the UPGEM model.

Source: Bohlmann et al (2015)

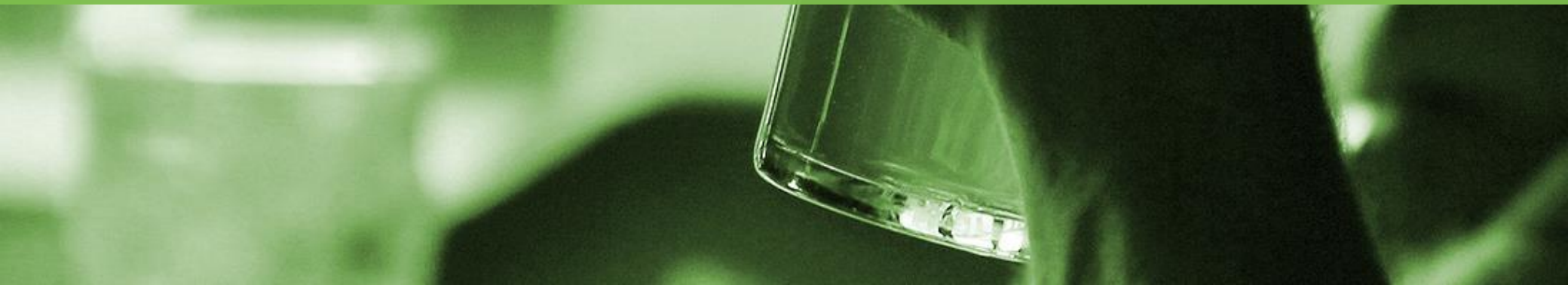
UPGEM DESCRIPTION OF VARIABLES

A	Primary-factor augmenting technical change
APC	Average propensity to consume
ATRW, BTRW	After-tax real wage; Before-tax real wage
C	Real private household expenditure
CPI	Consumer price index
D, L, U	Labour demand; Labour supply; Unemployment
DEP	Depreciation rate
F_I, F_X	Shift in investment; Shift in export demand schedule
G	Real government expenditure
GDP	Real gross domestic product
GINC, HINC	Real government income; Real household income
GNDI	Gross national disposable income
I	Real investment expenditure
K	Capital stock
MPK, RoR	Marginal product of capital; Rate of return on capital
NFLG	Real net foreign liabilities of government
NFLH	Real net foreign liabilities of households
PX, PM	Foreign-currency export price; Foreign-currency import price
PY	GDP deflator
R	Interest rate on net foreign liabilities
REM	Net outward remittance flows
R_IK	Investment/Capital ratio
TL, TQ	Labour tax rate; Production tax rate
TofT	Terms of trade
TWS	Cost-neutral import/domestic preference twist
X, M	Export volumes; Import volumes
ΔK	Change in capital stock between years t and t+1
ΔNFLG	Change in net foreign liabilities of government between t and t+1
ΔNFLH	Change in net foreign liabilities of households between t and t+1
ΔATRW	Change in after-tax real wage between t and t+1
ΔL_PREF	Change in labour supply preferences between t and t+1

This box contains a **list of variables and variable descriptions**. It provides further detail on the composition of the variables contained in the stylised system of equations contained on the previous slide.

Appendix 3

References



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