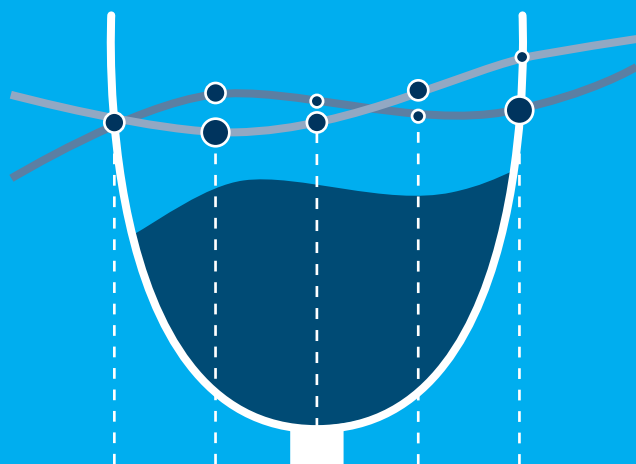


WHO TECHNICAL MANUAL ON

ALCOHOL TAX POLICY AND ADMINISTRATION



World Health
Organization

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AND ADMINISTRATION



**World Health
Organization**

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Designed by: Ana Sabino

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Foreword

Alcohol use is associated with more than 200 diseases, injuries and conditions that have detrimental consequences for the health, and social and economic development of countries. These include a variety of noncommunicable diseases (including cancers), communicable diseases (including an increased risk of tuberculosis and HIV/AIDS transmission), perinatal conditions (such as fetal alcohol spectrum disorders), and intentional and unintentional harm to self and others (including road traffic injuries, drowning and interpersonal violence).

As with other excisable products like tobacco, the social harms of alcohol consumption are extensive; these include intrafamily and gender-based violence, and road traffic collisions and accidents. The health harms linked with alcohol use are distributed unevenly across populations, as individuals with lower socioeconomic status experience greater harms. In this sense, inadequate action to address alcohol harms serves to perpetuate existing health inequalities. Additionally, alcohol is a toxic and psychoactive substance with dependence-producing propensities that require government intervention.

Population-wide and cost-effective interventions, including taxation, can be used to lower alcohol consumption. Alcohol tax is often described as a win-win-win strategy: it is a win for health because of reduced consumption; a win for government due to increased revenue; and a win for health equity because of reduced equity. Countries may also consider allocating a portion of increased government revenue to alcohol-related public health programmes.

The potential and scope in using alcohol tax as a public health tool to increase alcohol prices, decrease consumption and prevent associated health harms, is substantial. Modelling studies have shown that there is ample scope to use health taxes to increase government revenue. A pressing concern is that alcoholic beverages have, over time, consistently become more affordable in both high-income and low- and middle-income countries. But increasing affordability can be curbed using well-designed alcohol tax and pricing policies that result in an increase in the prices of alcoholic beverages.

This manual was written during the COVID-19 pandemic – a period of unprecedented high health-care expenditure and pressure on the economy – and thus an ideal time to plan and implement policies that are beneficial to both public health and government revenue. It is intended to be a practical guide and a call to action

for policy-makers and others involved in alcohol tax policy to develop alcohol tax systems and pricing policies that take into account the unique market structure, tax administration and political economy of each country. Supported by summaries and case studies of evidence on alcohol tax globally, the manual addresses government concerns about potential industry opposition to tax and pricing policies. It also identifies and debunks several arguments the industry tends to use to dissuade governments from implementing these effective and cost-effective policies.

Dr. Ailan Li

Assistant Director-General
Health Promotion Department

Foreword from the Director of the Health Promotion Department

Alcohol is not an ordinary good. Consuming alcohol is complex and multi-faceted, with different cultural, social, political, and economic factors influencing one's choice to drink it. Alcohol use can cause harm that leads to many diseases such as strokes, cancer, heart and liver ailments. It is also associated with many societal burdens, including road crashes, suicides, child abuse and neglect, and violence, with majority of alcohol-related health harms affecting non-consumers. The key therefore to addressing the issue of reducing consumption is through a population-wide health promotion approach, with policymakers targeting and modifying the acceptability, availability, and affordability of alcohol.

Alcohol control works best if interventions are pursued as a package. These include monitoring global alcohol consumption, offering help to people to stop drinking alcohol or reduce their alcohol consumption, regulating the sales and marketing of alcohol. One of the proven measures to curb its affordability and consumption is to impose taxes on alcoholic beverages. When the tax is high enough to affect the prices of alcohol products, many people reduce their consumption thus improving the population's health outcomes and making societies healthier and more resilient.

Alcohol taxation can also help reduce inequalities, including health-related, as social disadvantage and alcohol use are often mutually reinforcing. Taxation can break the vicious cycle of poverty and alcohol consumption. Well-designed alcohol tax policies can be used to address specific consumption patterns, such as heavy episodic drinking. Since lower-income individuals are the most sensitive to price changes, tax increases would substantially affect their alcohol consumption. Taxation reduces disproportionate health burdens in lower-income communities and contributes to health equality in populations.

The WHO technical manual on alcohol tax policy and administration, which is a guide on the design and implementation of policies, is an important tool to fulfill the World Health Organization's core mission to promote health.

Dr. Rüdiger Krech

Director

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Abbreviations

AAPC	Average annual percentage change
AB InBev	Anheuser-Busch InBev
ABV	Alcohol by volume
ABW	Alcohol by weight
AEO	Authorized economic operator
Bx	Brix [degrees]
CIF	Cost, insurance and freight
CN	Combined Nomenclature [coding system]
DALY	Disability-adjusted life-year
DAS	Duty at source
EGMS	Excisable Goods Management System [of Kenya]
EU	European Union
FCTC	Framework Convention on Tobacco Control
FSRAR	Federal Service for Alcohol Market Regulation [of the Russian Federation]
GATT	General Agreement on Tariffs and Trade
GDP	Gross domestic product
GL	Gay-Lussac [degrees]
HIC	High-income country
ICAP	International Center for Alcohol Policies
IFI	International financial institution
IT	Information technology
KEBS	Kenya Bureau of Standards
KRA	Kenya Revenue Authority
LMIC	Low- and middle-income country
MP	Minimum pricing
NACADA	National Council against Drug Abuse [of Kenya]
NCD	Noncommunicable disease
OECD	Organisation for Economic Co-operation and Development
P	Plato [degrees]
PET	Polyethylene terephthalate
PFM	Public financial management [system]
QR	Quick response [code]
RIP	Relative income price

RTD	Ready-to-drink [beverage]
SACU	Southern African Customs Union
SARS	South African Revenue Service
SDG	Sustainable Development Goal
SPHeP-NCDs	Strategic Public Health Planning for Noncommunicable Diseases [model]
VAT	Value-added tax
WCO	World Customs Organization
WTO	World Trade Organization

Executive summary

This *WHO technical manual on alcohol tax policy and administration* is a useful resource on alcohol tax policy development, design, implementation and administration. It summarizes the latest developments in the subject matter, and draws on illustrative recent examples from several countries. The goal of the manual is to provide information for governments and policy-makers about motivations and methods for development of alcohol tax policies in order to achieve public health and revenue objectives.

Although most countries have applied taxes on alcoholic beverages for decades, while others for centuries, revenue generation has usually been the primary aim. As evidence of the individual, social and economic consequences of alcohol consumption accumulates, governments are increasingly recognising that alcohol tax is not only a source of revenue but also an important population intervention to reduce alcohol consumption and its negative externalities and internalities. Nonetheless, alcohol tax as a tool to improve public health remains largely underutilized, but it is starting to gain significant traction.

Multiple global commitments have been adopted over the past decade to address alcohol use. For instance, WHO's Global strategy to reduce the harmful use of alcohol, approved by Member States in 2010, establishes reducing the harmful use of alcohol and its associated health and social burdens as a public health priority. It recognizes that "increasing the price of alcoholic beverages is one of the most effective interventions to reduce harmful use of alcohol", and mentions the role of taxes in influencing prices. Moreover, in 2013, the Sixty-sixth World Health Assembly endorsed the Global action plan for the prevention and control of noncommunicable diseases 2013–2020 (since extended to 2030), along with a set of nine voluntary global targets to be achieved by 2025, including "at least 10% relative reduction in the harmful use of alcohol". Appendix 3 of the Global action plan for the prevention and control of noncommunicable diseases lists alcohol tax as a highly cost-effective intervention. The global alcohol action plan to effectively implement the Global strategy to reduce the harmful use of alcohol, adopted by the Seventy-fifth World Health Assembly in 2022, calls for countries to address the affordability of alcoholic beverages by taxation and asks them to consider earmarking alcohol tax revenues toward reducing the harmful use of alcohol.

Despite these commitments, movement at the country level to implement these evidence-based policies has been slow. The evidence on alcohol tax shows that an increase in excise taxes that results in price increases is one of the most effective mechanisms – and the most cost-effective – for reducing alcohol consumption. Nonetheless, it should be noted that alcohol tax and pricing policies are most effective when implemented as part of a comprehensive alcohol control strategy. WHO's SAFER technical package provides a guide to the five most cost-effective interventions to reduce alcohol-related harm. Apart from tax, other policies include restricting availability of alcoholic beverages, enforcing bans or comprehensive restrictions on alcohol advertising, ensuring adherence to drink–driving restrictions, and facilitating access to screening, brief interventions and treatment.

Although most countries implement some form of alcohol tax, their tax structures are often not designed adequately to deter health and social harms and achieve social and economic development objectives, while simultaneously considering the required administrative capacity. There is still scope for improving the excise tax system on alcoholic beverages, continuously increasing excise tax rates and considering pricing policies to complement tax policies. This manual will guide readers through the necessary steps to create and implement the strongest alcohol tax policies for their own country.

The manual starts with a background chapter that sets the scene, introducing and explaining the global context and relevance of alcohol tax and pricing policies. Chapter 2 introduces the reader to key considerations and recommendations for designing alcohol tax structures; Chapter 3 sets out the theory, practice and empirical evidence on alcohol tax and pricing policies; and Chapter 4 follows up on this by discussing complementary policies that may also affect prices. Strengthened efficiency and effectiveness of a country's alcohol tax administration are essential components for improving tax systems to ensure that health objectives are met, and that the desired level of tax revenue is raised. The tools and policies for these aspects of tax administration are discussed in detail in Chapter 5. As with any proposed government action, policy-makers need to navigate the political environment of alcohol tax at every stage of policy development. Chapters 6 and 7 provide guides to navigating the challenges policy-makers might face in the political economy environment and when responding to industry arguments against alcohol tax and pricing policies. The manual concludes with a list of key recommendations based on the discussions in each chapter.

Prior to discussing the merits and design of different excise tax structures and pricing policies, Chapter 2 provides the reader with an introduction to the fundamentals of alcohol tax policies. Most importantly, this chapter describes the economic rationale for these policies. From an economic perspective, alcohol tax and

pricing policies correct for the externalities and internalities associated with alcohol consumption, including broad social and health harms. Alcohol consumption is a major cause of disability, disease and death globally. It is linked to more than 200 diseases and injury conditions and is responsible for approximately 2.6 million deaths every year. Its effects include diseases of and injuries to the alcohol consumer but also impacts on others – for instance, via alcohol-related incidences of violence or traffic collisions. The costs of all these harms, which are quantifiable, place a massive economic burden on countries. One study estimates that the costs associated with alcohol consumption amount to between 2.1% and 2.5% of a country's gross domestic product in middle- and high-income countries.

Tax and pricing policies are also an effective tool to target the affordability of alcohol. Global evidence shows that affordability is linked to alcohol consumption, and that a decrease in affordability will result in lowering consumption while simultaneously stimulating global revenue. Global estimates presented in this chapter show that, in most countries, alcohol has become more affordable over time. This highlights the pressing need to act now by improving the excise tax structure and rates of alcoholic beverages.

Several factors that need to be considered when developing alcohol tax policies are discussed in Chapter 3. Broadly speaking, there are two types of excise tax types – ad valorem and specific – with differences in their bases and tiers. Ad valorem taxes are often based on a reported retail price: the ex-factory price or the cost, insurance and freight price. Specific excise tax types can be based on either the volume of the alcoholic beverage – referred to in this manual as unitary/volumetric-specific excise taxes – or on alcohol content. In addition to these considerations, governments need to decide on a rate of tax, and may also consider a tiered approach, with which taxes can be designed so that different rates apply to different alcoholic beverages within a category. A common application of tiered rates is to have higher rates based on alcohol strength or ethanol content; these tax beverages with high alcohol strength or high alcohol content at increasing rates. The choice of an excise tax structure should be determined by local contextual factors like a government's policy goals, the alcohol market – especially consumption patterns, product heterogeneity, levels of competition and tax administration capacity.

For instance, governments might focus on a policy goal to prevent youth initiation of alcohol consumption, to decrease overall consumption of alcohol or to people who engage in heavy episodic drinking. Governments may then choose to rely on a mixed excise tax structure with different excise tax types, bases or tiers to achieve these goals. The existence of a wide variety of alcoholic beverages with different consumption patterns will also influence the choice of alcohol tax structure. Governments may choose to impose different tax types, bases and

rates on various alcoholic beverages. While these mixed excise tax structures may be effective in reaching different policy goals, they are complicated in nature and impose a greater administrative burden. Governments need to be aware that there is a trade-off between tax efficiency, based on their choice of tax structure, and tax administration capacity and efficiency. Chapter 3 draws from country case studies in Thailand, South Africa and Chile to illustrate relevant factors for choosing a tax structure based on the local country context.

A feasible and efficient excise tax structure needs to be complemented with a high enough level of excise tax rates to discourage consumption. If a specific excise tax type is implemented, it should also include regular adjustments to increase the tax rate so that it keeps up with inflation and income growth over time. Excise tax increases should aim to reduce the affordability of alcoholic beverages.

As a complement to tax policies, governments may consider non-tax regulations that affect the price of alcoholic beverages, such as pricing regulation. Minimum pricing, discussed in Chapter 4, is a policy used to set a floor price below which alcoholic beverages cannot be sold. The base for these pricing strategies is usually either the alcohol content or the volume of an alcoholic beverage. Minimum pricing, when used in combination with tax policies, can be an effective tool to curb consumption of cheap alcoholic beverages. A significant body of research has demonstrated that people who engage in heavy episodic drinking tend to drink the cheapest available alcoholic beverages. Country evidence has shown that minimum pricing results in reductions in alcohol-attributable hospitalizations, alcohol-attributable deaths and alcohol-related traffic violations and crimes.

A range of other pricing policies can be considered in addition to minimum pricing, including prohibiting marketing strategies that sellers use to increase alcohol sales temporarily – such as volume discounts, two-for-one promotions and so-called happy hour events. These types of promotions stimulate harmful drinking patterns by creating time constraints, encouraging greater alcohol consumption in a short period of time or even binge drinking.

Alcohol tax administration is discussed in Chapter 5. Taxing alcoholic beverages is particularly complex given the wide variety of alcoholic beverages in the market, each with differing alcoholic contents, production processes and beverage volumes. It is up to governments to establish a clear framework that can be used to classify beverages and determine the appropriate tax rate.

Across countries, the structure of tax administration agencies varies widely. In most countries, customs and tax administration of national taxes are separate. However, some countries have combined these functions into a single agency. The key to an efficient and effective tax administration system is coordination, which is needed not only among all the agencies involved but also with neighbouring countries.

Another action governments should take is to ensure the compliance and accuracy of information on the tax compliance cycle. This refers to the various stages of a well-functioning tax system, including registration and licensing, tax declarations, recordkeeping, storage warehousing, duty suspension, collection of tax and tax refunds. Recordkeeping – preferably using electronic systems – allows governments to monitor activities in the alcoholic beverage supply chain. The various components of the supply chain need to be secured; this can be achieved by licensing each of the components, including manufacturing, importing, exporting, retailing, growing, transporting, wholesaling, brokering, warehousing and distribution.

Another main function of tax administration is control and enforcement, fundamental to which is developing a strategic plan and adopting a risk-based approach. As discussed in Chapter 5, various tools can assist governments with control and enforcement – notably licensing, well-designed fiscal markings like tax stamps, tracking and tracing systems, use of anti-forestalling measures, national audits, and specific control and regulations for imports/exports and dealing with free zones.

Illicit trade and consumption of unrecorded alcoholic beverages threaten governments' objectives to design and implement an effective tax system for alcoholic beverages and, ultimately, improve public health. Unrecorded alcohol refers to alcohol that is consumed as an alcoholic beverage but not registered in official statistics. These products can broadly be grouped into five categories: 1) illegal homemade and/or artisanal alcohol (such as moonshine); 2) legal but unrecorded alcohol products (such as home-brewed beer); 3) illegal production (such as counterfeit or smuggling on a commercial scale); 4) illegal surrogate alcohol not officially intended for human consumption (such as mouthwash); and 5) alcohol products that are officially recorded but not in the jurisdiction where they are consumed (as with cross-border shopping).

Political economy considerations around alcohol tax and pricing policies are discussed in Chapters 6 and 7. The alcohol industry has a history of engagement with governments. Chapter 6 focuses on the subsidies, tax breaks, loans, financial incentives and other support received by the alcohol industry from governments, international funding institutions and donor agencies. It also assists policy-makers in their efforts to ensure the beneficial impacts of their policies by describing how earmarking can improve the political economy of alcohol tax by funding programmes and initiatives that promote and support the health and well-being of the population.

The alcohol industry has a long record of lobbying against tax reforms and increases. Chapter 7 focuses on industry arguments and rhetoric to oppose alcohol tax increases, which tend to centre on unrecorded alcohol, court and legal challenges, anti-poor rhetoric, revenue reduction, employment impacts and disinformation.

First, the industry is likely to argue that alcohol taxes result in increases in unrecorded consumption of alcohol. In reality, the relationship between consumption of unrecorded alcoholic beverages and tax is more complicated. Price and tax are not key determinants of unrecorded trade: rather, unrecorded trade is often a result of weak governance or a lack of tax administration capacity. A government's response to unrecorded alcohol trade should entail a comprehensive strategy, including strengthening governance and tax administration.

Second, the industry may use court and legal challenges as a potential threat to implementing alcohol tax and pricing policies. Such challenges usually arise when the industry questions whether a government is acting within its powers to implement alcohol tax policies, or indeed whether it is acting within international law obligations. However, health tax and pricing policies are implemented to protect health, which – given the health and social harms associated with alcohol consumption – makes them highly defensible as policy interventions.

A third argument often made by the industry is that alcohol tax and pricing policies are regressive, in that they place a larger financial burden on individuals with lower socioeconomic status. However, this argument ignores the “alcohol harm paradox” – a term that refers to the disproportionate harm per litre for alcohol consumers in lower socioeconomic groups.

A fourth industry argument is that alcohol tax policies might result in a reduction in tax revenue for the government. However, country examples show that the opposite is true. Increased excise tax rates result in increases in alcohol tax revenue. Therefore, alcohol tax is often referred to as a win-win policy: it is a win for public health as consumption decreases, and a win for finance as there is an increase in revenue. It is often also referred to as a win-win-win policy, with the third win referring to the long-term benefit of decreased inequality and more sustainable development.

A fifth common argument against taxing alcoholic beverages is that it will increase unemployment. However, empirical evidence suggests that raising alcohol taxes or adopting pricing policies will have a gradual and relatively small impact on employment in the alcohol sector. In addition, technological change in the sector also contributes to unemployment. The impact of these factors will differ by country and region. Of course, each country needs to be evaluated separately.

Finally, the industry adopts disinformation strategies to create narratives that are used to oppose increasing alcohol taxes. These strategies include funding and shaping scientific information campaigns through various actions. Alcohol-related research and alcohol policy-making should be transparent and objective, and governments and researchers can take various steps to ensure this.

This manual forms part of a series of new normative tools from WHO in the area of health taxes, including the *WHO technical manual on tobacco tax policy*

and administration and the *WHO manual on sugar-sweetened beverage taxation policies to promote healthy diets*. The documents bear many similarities in structure, philosophy and practice by design, given the many complementarities between tobacco and alcohol tax in both history and practice. Furthermore, this approach recognizes that many practitioners work not just on alcohol or tobacco taxes but more broadly on all excise taxes. This manual is also supported by a WHO publication on health taxes in policy and practice. Taken together, these materials provide a complementary and comprehensive picture of the economics behind taxation of commercial determinants of noncommunicable diseases, including alcohol, tobacco and sugar-sweetened beverages.

CHAPTER 1.

Background

This WHO technical manual is a useful resource for alcohol tax and pricing policy development, design, implementation and administration. It summarizes the latest developments in science and policy, and draws on illustrative examples from several countries. The goal of the manual is to inform and guide governments in development of alcohol tax policies to achieve public health and revenue objectives. This chapter introduces and explains the global context and relevance of the manual.

Alcohol tax is an important tool to improve public health and increase government revenue. Although most countries have applied taxes on alcoholic beverages for decades, if not centuries, revenue generation has usually been the primary aim. However, as evidence of the negative individual, social and economic consequences of alcohol consumption accumulate, governments are increasingly recognizing that alcohol tax is not only a source of revenue but also an important population-wide intervention to reduce alcohol consumption and its negative externalities and internalities. As a tool to improve public health, alcohol tax remains largely underutilized, but it is starting to gain significant traction.

1.1 GLOBAL MANDATES TO REDUCE HARM DUE TO ALCOHOL CONSUMPTION

Several international and regional mandates to reduce the harms of alcohol consumption are in place. WHO's Global strategy to reduce the harmful use of alcohol (1) and the global alcohol action plan to effectively implement the Global strategy, adopted by the Seventy-fifth World Health Assembly in 2022, are the key policy frameworks for reducing deaths and disability due to alcohol consumption. The plan calls for countries to implement taxation policies and asks them to consider earmarking alcohol tax revenues toward reducing the harmful use of alcohol. The documents also address the intersections with mental health conditions, noncommunicable diseases (NCDs), injuries and alcohol-attributable communicable diseases. These frameworks provide the building blocks for several WHO global and regional strategic initiatives. They represent the joint commitment of all WHO Member States and provide a key mandate for the WHO Secretariat and international partners to take sustained action to curb alcohol consumption worldwide.

These international frameworks have been reinforced by political declarations and high-level meetings. Countries' commitment to reducing the use of alcohol has been bolstered by the adoption of political declarations, including the Political Declaration of the High-level Meeting of the United Nations General Assembly on the Prevention and Control of NCDs of 2011 (2) and the subsequent adoption and implementation of WHO's Global action plan for the prevention and control of NCDs 2013–2020 (3). This was extended to 2030 at the Seventy-second World Health Assembly in 2019 (in resolution WHA72.11), ensuring its alignment with the 2030 Agenda for Sustainable Development. The Global action plan lists the harmful use of alcohol as one of four key risk factors for major NCDs. It enables governments and other stakeholders to identify and use opportunities for synergies to tackle more than one risk factor at the same time; strengthen coordination and coherence between measures for reducing the consumption of alcohol and activities for preventing and controlling NCDs; and set voluntary targets for reducing the harmful use of alcohol and other risk factors for NCDs. Appendix 3 of the Global action plan contains a menu of policy options and cost-effective interventions to address noncommunicable diseases, and lists alcohol tax as a highly cost-effective intervention. Appendix 3 is updated regularly with emerging evidence; the first updated version was endorsed by the Seventieth World Health Assembly in 2017. A further updated and expanded version of Appendix 3 was endorsed by the Seventy-sixth World Health Assembly in 2023. This is intended to support the Global action plan's implementation roadmap to 2030.

The international mandate to reduce the harmful use of alcohol was further strengthened by the adoption of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs). SDG target 3.5 refers specifically to strengthening “the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol”. Reducing alcohol consumption will also contribute to progress towards the attainment of multiple goals and targets of the 2030 Agenda, including SDG 1 on ending poverty, SDG 3 on ensuring healthy lives and promote well-being for all at all ages, SDG 4 on ensuring quality education, SDG 5 on achieving gender equality, SDG 8 on promoting decent work and economic growth, SDG 10 on reducing inequalities within and among countries and SDG 16 on promoting peace and providing justice and strong institutions. Alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol is a key alcohol indicator relevant to SDGs (SDG Indicator 3.5.2).

The WHO SAFER initiative supports ongoing implementation of these global mandates. In collaboration with international partners, WHO launched the SAFER initiative in 2018 alongside the 3rd High-level Meeting of the United Nations General Assembly on the Prevention and Control of NCDs. SAFER was

developed to support countries in working to meet global, regional and national health and development goals and targets, and to reduce alcohol-related harms. SAFER focuses on the following most cost-effective priority interventions using a set of WHO tools and resources to prevent and reduce alcohol-related harm (4).

- Strengthen restrictions on alcohol availability.
- Advance and enforce drink–driving countermeasures.
- Facilitate access to screening, brief interventions and treatment.
- Enforce bans or comprehensive restrictions on alcohol advertising, sponsorship and promotion.
- Raise prices on alcohol through excise taxes and pricing policies.

Several SAFER interventions require legislative or regulatory action that may build on an existing framework or may require new action. Countries can take a systematic approach that includes review of existing rules, drafting of new language when needed, and a thorough political strategy for the passage of new laws and regulations. Support from the SAFER initiative will be aligned to a country’s needs to develop effective and cost-effective policy interventions, in line with government priorities and resources and the objectives of the SAFER initiative.

1.2 THE EPIDEMIOLOGY OF ALCOHOL CONSUMPTION AND HARM

Alcohol consumption creates a health burden for individuals and societies, and is a risk factor for more than 200 diseases and injuries. Ethanol, the key component in alcoholic beverages, is a toxic and psychoactive substance with dependence-producing propensities. It has considerable negative health and social consequences for both the drinker and others. These elements distinguish alcohol from most other consumer products; as such, it should be treated differently. Alcoholic beverages may have cultural, social and customary uses; however, these should not preclude appropriate public health interventions to reduce the harms caused by alcohol consumption. Alcohol-related harms can include communicable diseases (including an increased risk of tuberculosis and HIV/AIDS transmission), perinatal conditions such as fetal alcohol spectrum disorders, noncommunicable diseases (including cardiovascular diseases and various cancers), and intentional and unintentional injuries (including road traffic injuries, drowning and self-harm) (5). For people with alcohol use disorder (AUD), which includes alcohol dependence (AD) and harmful pattern of alcohol use (HPAU), the risks are especially high. In 2019, alcohol consumption resulted in 2.6 million deaths (4.7% of all deaths) globally (6). The largest contributors to these alcohol-attributable deaths are digestive diseases (including liver diseases), unintentional injuries, and cardiovascular diseases and

diabetes. WHO's regular global status reports on alcohol and health (of which the most recent was published in 2018) provides an in-depth summary of the health conditions and available evidence on alcohol-related harms (5).

1.3 PATTERNS OF ALCOHOL CONSUMPTION

Monitoring the patterns of alcohol consumption in a country is key to developing alcohol control policies that will address the economic and health harms associated with alcohol use. Patterns of alcohol consumption is a multifaceted concept that refers to the manner in which individuals consume alcoholic beverages. This includes the frequency, quantity and context of alcohol consumption.

The amount of alcohol consumed per person has slightly declined. In per capita terms, the amount of alcohol consumed increased from 2000 to 2010 and then slightly declined from 2010 to 2019 (6,7). However, in absolute terms, the total amount of alcohol consumed increased partly due to population growth. Additionally, per capita alcohol consumption levels are rising in some of the most populous countries in the world, including China, India, and the United States of America. There is evidence that the alcohol industry targets young people in emerging economies as a potential growth market for alcohol consumption (8–10), which could result in increases in heavier drinking patterns.

Heavy episodic drinking is a worrisome alcohol consumption pattern. Heavy episodic drinking is defined as consuming at least 60 grams or more of pure alcohol on at least one occasion in the past 30 days. Sixty grams of alcohol roughly translates into six standard drinks (see section 1.6.3 on the definition of a standard drink). It is associated with an increased risk of various noncommunicable diseases compared to non-heavy episodic consumption of alcohol (11). In 2016, almost 20% of adults globally were estimated to be heavy episodic drinkers. (Among alcohol consumers, the rate is 40%.) Although the prevalence of heavy episodic drinking was lower in 2016 than in 2000 (driven largely by declines in the WHO regions of Africa, the Americas and Europe), almost a billion people globally still engage in this pattern of consumption (7).

Drinking rates among young people remain high. More than a quarter of the world's adolescents (aged 15–19 years) were current drinkers in 2016. Adolescent alcohol consumption is particularly prevalent in high-income countries – such as those in Europe, Australia, New Zealand, Canada and the United States – and countries with high per capita consumption in South America, like Argentina and Chile (7).

Alcohol consumption differs by gender. On average, women are less often alcohol consumers than men. In 2019, men consumed on average 8.7 litres of pure alcohol per capita, which was nearly four times the average among women of 2.2 litres of pure alcohol per capita (6).

Consumption of unrecorded alcohol, which is especially high in LMICs, challenges the effectiveness of alcohol tax policies. Unrecorded alcohol is alcohol that is not accounted for in official statistics on alcohol taxation or sales (discussed in greater detail in Chapters 5 and 7). It can broadly be grouped into five categories: 1) illegal homemade and/or artisanal alcohol (such as moonshine); 2) legal but unrecorded alcohol products (such as legally home-brewed beer); 3) illegal production (such as counterfeiting or smuggling on a commercial scale); 4) illegal surrogate alcohol not officially intended for human consumption (such as mouthwash); and 5) alcohol products that have been officially recorded but not in the jurisdiction where they are consumed (as with cross-border shopping) (12). The production and consumption of unrecorded alcohol is a challenge to policy-makers who design alcohol control and administration policies because it can undermine or limit the effectiveness of taxation policies. Moreover, since unrecorded alcohol falls outside government control, it is challenging to craft policies capable of affecting its consumption. Given that more than a fifth of alcohol consumed globally is estimated to be unrecorded, it poses an additional challenge to public health – particularly for low- and lower-middle-income countries, where almost 39% of alcohol consumed is unrecorded (versus 7.0% in high-income countries) (6, 7).

Poorer alcohol consumers are particularly vulnerable to the harmful consequences of alcohol consumption. When designing alcohol control policies, it is important to acknowledge the relationships between alcohol consumption, alcohol health harms and economic wealth. While alcohol consumption is more prevalent among wealthier populations, the so-called harm per litre of alcohol is greater for poorer households; this is known as the “alcohol harm paradox” (13). Many explanations have been proposed for this paradox, including various individual and contextual factors. For instance, a contextual factor might be that there is less public health infrastructure in poor or disadvantaged communities – also known as neighbourhood deprivation (14). There is also often a higher density of alcohol establishments in these neighbourhoods, which is linked to a higher probability of heavy episodic drinking (15). This paradox underscores the potential effect alcohol policies can also have from an equity perspective.

1.4 SCOPE TO INCREASE GOVERNMENT REVENUE USING ALCOHOL EXCISE TAXES

Alcohol excise taxes are an effective tool to increase government revenue. However, excise tax revenue as a percentage of total tax revenue remains relatively low, and there is scope to increase this. During 2019, the average excise-tax-to-gross domestic product ratio (including alcohol, tobacco, fuel and sugar) in Organisation for Economic Co-operation and Development (OECD) countries was 2.3%

(compared to 6.7% for value-added tax and 11% for incomes, profits and capital gains tax) (16). A 2020 study based on data from 166 countries found that raising the retail price of alcoholic beverages by 20% could result in an increase in global government revenue of US\$ 9428 billion (17).

1.5 THE HEALTH PROMOTION APPROACH TO REDUCING ALCOHOL CONSUMPTION: TARGETING AFFORDABILITY, AVAILABILITY AND ACCEPTABILITY

Critical to the success of reducing alcohol consumption is framing alcohol tax and pricing policies in the context of a health promotion approach. To be effective in improving public health, policies to control alcohol consumption need to consider the determinants driving the acceptability, availability and affordability of alcohol consumption and how they affect people and their communities.

Alcohol control policy needs to focus on the entire population. While approximately 82% of the population aged 15 years or older do not participate in heavy episodic drinking (5), they suffer many of the negative consequences. The most notable example is the case of road traffic accidents and crime resulting from alcohol use. For instance, a 2016 estimate of the global health and social harms linked to alcohol consumption found that of the 370 000 alcohol-related deaths due to road injuries, 187 000 (51%) were among people that were not the drivers (5). Alcohol control policies need to consider all members of the population – not only alcohol consumers.

This is the core approach of this manual: alcohol use is multifaceted and shaped by sociocultural contexts. Cultural, social, political and economic factors influence motivations and decisions to consume alcohol (18, 19). A health promotion approach to mitigating the burden of death, disease and disability attributable to alcohol recognizes that all individuals are embedded in ecosystems and differing contexts that may influence and reinforce behavioural patterns and subsequent health and social outcomes (20). For some individuals, these cues are more influential than for others. Drinking cultures are not homogeneous or static across countries and groups of populations; rather, they are numerous and constantly changing (21).

Tax and pricing policies work better when combined with other highly cost-effective interventions. Increasing prices and excise taxes may address the affordability of alcohol, but policies also must be designed to address acceptability (for example, through raising awareness about the health harms of alcohol, labelling policies, and restricting and banning alcohol marketing, advertising and sponsorships) and availability (for example, by implementing policies that address outlet density and locations, and promote healthy settings and environments). Tax and pricing policies work more effectively when framed and implemented in concert with other population-wide interventions.

1.6 KEY CONCEPTS FOR READING THIS MANUAL

This subsection enables readers to familiarize themselves with some key concepts that reappear throughout the manual. These include the concepts of alcoholic beverage types, alcohol strength and the alcohol industry, as defined in this manual.

1.6.1 KEY CONCEPT: CATEGORIES AND TYPES OF ALCOHOLIC BEVERAGES

Key message

- The diversity of alcoholic beverages creates a variety of challenges for taxing them compared to other goods. Understanding the various alcoholic beverages, and their consumption patterns, is key to designing effective fiscal policy.

The word “alcohol” in this manual is used to refer to alcoholic beverages. Alcoholic beverages are highly diverse, with a continuum of products based on ethyl alcohol content and other factors. However, the common element in all alcoholic beverages for human consumption is ethanol.

1.6.1.1 Categories of alcohol defined by their production process

The range of diverse alcoholic beverages can be grouped broadly into three categories, based on their production process: fermented products; distilled products; and ready-to-drink products. The differences between these categories are discussed briefly below and detailed in a framework in Table 1.1..

- Ethanol is produced through the process of **fermentation** or hydration of ethene (22). Ethanol in alcoholic beverages is typically produced through fermentation, where yeast is used to convert sugars into ethanol and carbon dioxide. The strength of ethanol is measured using alcohol by volume (ABV). The process of fermentation can only create an ABV up to a level of 15–17% (23).
- The concentration of alcohol can be increased by **distilling** the fermented liquids – commonly known as liquors – a process that involves heating the fermented liquid in order to separate the ethanol from other substances. The more extensive the distillation, the higher the alcohol content of the remaining liquid. For most distilled beverages, the ABV is around 40%.
- **Ready-to-drink beverages (RTDs)** is an umbrella term for alcoholic beverages that are often mixed with soft drinks (such as various sodas, lemonade, iced tea or seltzer water) (24) or even energy drinks. The ethanol used as a base for these products can be either fermented or fermented and distilled. The ABV for RTDs typically ranges from 3% to 7% (25).

1.6.1.2 Alcoholic beverage types defined by the end-product

Within each category of alcohol, there are different types of alcoholic beverages. The category of fermented drinks includes alcoholic beverage types such as beer, cider and wine. The distilled drinks category includes types of liqueur and spirits. While RTDs are their own category since they can be made with a variety of production processes, RTD types include alcopops (23), flavoured alcoholic beverages and hard seltzers. Table 1.1. provides an overview of alcoholic beverage types, while product classification for tax purposes is discussed in section 5.2.1.

Table 1.1. A framework of alcoholic beverage types

CATEGORY	ALCOHOLIC BEVERAGE TYPE	DETAIL	SUBCATEGORY AND EXAMPLES	TYPICAL ABV
Fermented	Beer	The most widely produced and consumed alcoholic beverage globally, beer is made through the fermentation of grains such as barley, wheat and sorghum (26). The use of different combinations of grains and spices, such as hops, together with water and yeast produce a wide variety of beers that differ in colour, smell, flavour and alcohol content.	<p>Ale examples include pale ales, India pale ales, stouts, porters and wild ales.</p> <p>Lager examples include pilsners, pale lagers and dark lagers (23, 26).</p> <p>Malt liquor refers to higher-alcohol-content beers that are produced by adding corn and/or other sugars during the fermentation process.</p>	ABV is typically 3–6%, but can be as high as 15% (26, 27).
	Cider	Cider is produced by the fermentation of fruits, most commonly apples or pears.	Different varieties of ciders vary in colour, taste, smell and alcohol content.	

CATEGORY	ALCOHOLIC BEVERAGE TYPE	DETAIL	SUBCATEGORY AND EXAMPLES	TYPICAL ABV	
Fermented	Wine	Wine is most often fermented from grapes, with some exceptions (e.g. sake, which is fermented from rice), there are numerous varieties of wine that vary in taste, colour, smell and alcohol content.	<p>Red wine is produced from the use of red grapes such as cabernet sauvignon, grenache, malbec, merlot, pinot noir, syrah and shiraz, with the red colour resulting from leaving the grape skins on during the fermentation process.</p>	Most non-fortified still and sparkling wines range from 8% to 14% ABV (27, 28). Non-alcoholic wines are also available.	
			<p>White wine is mostly produced from white grapes, although some is also produced from red grapes. Some commonly used white grapes include chardonnay, chenin blanc, moscato, pinot grigio, pinot gris, riesling and sauvignon blanc. Unlike with red wines, the grape skins are removed prior to fermentation.</p>		
			<p>Rosé wines use a variety of grapes, with the colour resulting from leaving the grape skins on at the beginning of the fermentation process. White, red and rosé wines are often grouped together as “still wines” (28).</p>		
			<p>Sparkling wine is carbonated, either through the production of carbon dioxide during the fermentation process or by the injection of carbon dioxide. Most sparkling wines are white, although there are red and rosé varieties, with Champagne (sparkling wines produced in the Champagne area of France) and prosecco (an Italian sparkling wine) the best known.</p>		
			Fortified wine	Fortified wine is produced by adding distilled spirits to wine, raising their alcohol content. Port, sherry and vermouth are among the most widely consumed fortified wines.	ABV is typically 20% or higher (27).

CATEGORY	ALCOHOLIC BEVERAGE TYPE	DETAIL	SUBCATEGORY AND EXAMPLES	TYPICAL ABV
Distilled	Liqueur	Liqueurs are flavoured, sweetened beverages that typically have a lower alcohol content than other liquors.	Varieties include amaretto, ouzo, pastis and triple sec, as well as a range of crème liqueurs such as crème de menthe and crème de cassis.	ABV is often in the range 15–30% (although some liqueurs can be much higher) (29).
	Spirits	Spirits generally have higher alcohol content than liqueurs.	There are six primary types of spirits – brandy, gin, rum, tequila, vodka and whisky – that are produced from different plants and using different techniques (29). There are numerous varieties within each of these broad categories of spirits.	ABV is mostly in the range 35–55% (29).
RTDs	Alcops or flavoured alcoholic beverages and hard seltzers	RTDs is an umbrella term – varieties differ by the choice of base, and are mixed with soft or energy drinks.	Varieties include: <ul style="list-style-type: none"> • malt-based (so-called “malternatives”) • wine-based (including wine coolers) • distilled spirits-based • cider-based. 	ABV typically ranges from 3% to 7% (25).

1.6.2 KEY CONCEPT: ALCOHOL STRENGTH

Key message

- Alcoholic beverages vary by strength – how much pure ethanol is present in the beverage. The higher the ethanol strength in an alcoholic beverage, the more potent the product. Understanding alcohol strength is an important step in determining the appropriate policy or policies to reduce its harm.

There is no consensus on the terminology used to describe alcohol strength. This is particularly relevant in the context of tax policy and administration because tax rates often vary according to alcohol strength.

This manual uses the nomenclature of ABV, expressed as a percentage, as its standard terminology. ABV is defined as the number of millilitres (mL) of pure ethanol present in 100 mL of the beverage when measured at 20° Celsius. The abbreviation “alc/vol” is used by other sources but not in this manual. It should be noted that measurements of alcohol strength and measurements that correlate with alcohol strength are used across countries to form part of the alcohol excise tax policy. These include alcohol proof, alcohol by weight, degrees Gay-Lussac, degrees Plato and degrees Brix (see section 3.3.3).

1.6.3 KEY CONCEPT: STANDARD DRINK

The concept of a “standard drink” is used to monitor the amount of alcohol one is consuming. Standard drink measures vary from country to country, often determined by national guidelines based on research findings and health recommendations. Nationally defined standard drinks are often much less than the actual drinks being served (30). In response, some countries have recommended that alcohol content on product labels be expressed in terms of number of “standard drinks” (31, 32). WHO used a standard drink of 10 g of pure ethanol in the Alcohol Use Disorders Identification Test (33).

1.6.4 KEY CONCEPT: ALCOHOL INDUSTRY

Key message

- Public policies and interventions should be guided and formulated by public health interests and based on clear public health goals and the best available evidence. The alcohol industry has an intrinsic conflict of interest with public health objectives (34).

Throughout the manual, there will often be reference to the concept of the alcohol industry, yet there is a lack of clarity about how to define the alcohol industry and its constituent actors because of the great variation in products and motivations of industry stakeholders (35). Definitions of the alcohol industry have sought to encapsulate this complexity by capturing diverse actors across supply chains linking production, supply, promotion and distribution of alcohol. Public health literature often identifies the industry as encompassing “producers, wholesalers and distributors, point-of-sale operators (whether licensed or not) and hospitality providers such as hotels or cafés that serve alcohol” while also noting close links across allied industries such as agriculture, transport, packaging advertising, sports and entertainment (36).

Global strategy to reduce the harmful use of alcohol, WHO refers to the roles of so-called economic operators as “developers, producers, distributors, marketers and sellers of alcoholic beverages” (1). In addition to its broad conception of the core of the alcohol industry, this definition is significant because it includes peripheral actors representing or largely funded by the industry. Hence, diverse organizations referred to in the alcohol literature as social aspects/public relations organizations (37, 38) and functionally equivalent to tobacco industry front groups are here considered to form part of the industry.

In this manual the term “alcohol industry” also includes business associations and other non-State actors representing or funded largely by any of the aforementioned entities.

1.7 MANUAL'S CONTRIBUTION

WHO's *Resource tool on alcohol taxation and pricing policies* (39), published in 2017, was developed as a technical tool and resource to support implementation of the Global strategy to reduce the harmful use of alcohol. Six years later, evidence and data have enhanced understanding about the health, social and economic harm caused by alcohol consumption. Countries and the global public health community have also increased awareness about the need to tackle upstream the causes driving alcohol consumption, and have committed to inform the public about its negative consequences. More recently, the commercial determinants approach has provided another angle to understand and tackle the economic forces driving the production and marketing of unhealthy commodities, the potential conflict of interest and the need to strengthen national governance (40).

This new *WHO technical manual on alcohol tax policy and administration* builds on the *Resource tool* as it provides a new range of illustrative country case studies to share lessons learned from implementation challenges and inspire actions from front-line officials. Specifically, the manual provides further considerations for alcohol taxation, including chapters on alternative pricing strategies and administration system considerations. It also identifies industry tactics to dissuade effective alcohol control policies and provides methods to counter these arguments.

The **manual was developed** with the assistance of contributors from government, academia, WHO collaborating centers, international organizations, and WHO staff. The process was designed after several concept development meetings with these experts working in the field of alcohol control, and was used to establish the objective and contribution of the manual. Experts and contributors were then identified and tasked with writing specific sections of the document outline. For the country examples, academics and policy makers working in these countries were approached to provide examples that reflect their contextual knowledge. After the initial concept development meeting, several more meetings were held to bring together all contributors, WHO staff, and a number of independent experts to review the progress, provide technical feedback and advice to contributors and WHO staff, provide guidance on policy recommendations and ensure that the appropriate evidence and experience is highlighted.

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CHAPTER 2

Introduction

2.1 INTRODUCTION TO THE MANUAL

As an introduction to the *WHO technical manual on alcohol tax policy and administration*, this chapter explains the concept of alcohol tax and pricing policies, and outlines the motivations for designing, implementing and administering an effective alcohol tax system and, where necessary, a complementary alcohol price-regulation system.

Considerable health and social harms and economic costs (section 2.2) are associated with alcohol consumption. These costs are troubling, given the global increase in the affordability of alcoholic beverages, which is one of the key determinants of alcohol consumption (section 2.3). Alcohol tax policies are one of the most cost-effective tools to address these rising trends in consumption and affordability (section 2.4), as well as the associated health and economic burdens. The effectiveness of alcohol tax is supported by economic theory (section 2.5.1), and is evident in the impact that increasing alcohol prices has on reducing alcoholic beverage consumption (section 2.5.2) and its associated health harms (section 2.5.3).

2.2 THE ECONOMIC COSTS OF ALCOHOL CONSUMPTION

Key messages

- In addition to posing a significant health and social burden, alcohol consumption results in large and quantifiable economic costs.
- Estimates from a sample of countries suggest that alcohol harm costs economies the equivalent of 2.1% of gross domestic product (GDP) of middle-income countries and 2.5% of GDP of high-income countries.

Economic costs studies on alcohol consumption are a tool used to quantify the burden of alcohol consumption to society. Economic cost analyses tend to be divided into tangible (direct and indirect) and intangible costs. The latter is often not used in the literature on alcohol's economic costs due to the challenge of their quantification. Intangible costs refer to costs associated with a reduction in life quality or loss of function, such as the emotional pain and anxiety an individual and their family might endure as a result of an alcohol-related disease.

Rehm and colleagues (1) estimate that the total economic costs (population-weighted average) due to alcohol consumption in selected high-income and middle-income countries are equivalent to 2.5% of GDP for high-income countries (HICs) and 2.1% of GDP for middle-income countries. The study is based on a limited sample of countries and does not include any alcohol-attributable communicable diseases, but it does include a quantification of unrecorded alcohol (discussed in Chapters 5 and 7).

Another systematic review and modelling study estimates that the total economic costs attributable to alcohol consumption are, on average, Int\$ 1306 per adult² or the equivalent of 2.6% of GDP per year (2). This estimate is slightly higher than the estimate in the Rehm et al. study (1) because of the different methodologies used. The Manthey et al. study (2) systematically reviews the available evidence and conduct a meta analysis to estimate the economic costs attributable to alcohol; as a result, the estimate largely reflects HICs due to the limited availability of data on low- and middle-income countries (LMICs). According to the study, direct costs are responsible for 38.8% of the total costs, while indirect costs make up 61.2%. Among the direct costs, health-care costs make up almost half (46.2%), followed by costs of crime (28.9%), traffic crash-related costs (13.5%) and other costs (11.4%). The indirect costs relate to productivity losses, notably due to workplace absence and presenteeism or premature mortality.

These studies provide quantified estimate of the burden that alcohol places on the economy. The estimates are borne not only by alcohol consumers but also by families, communities and governments.

In addition to high-level global estimates of the economic costs of alcohol consumption, researchers often conduct country-level, detailed analyses of the economic costs of alcohol consumption. Country examples from Thailand, South Africa and Chile are provided in Box 2.1.

2 The international dollar (Int\$) is a measure of currency used to compare relative price and purchasing power across countries. The measure reflects the purchasing power parity of the United States at a given point in time. 2019 Int\$ are used in the study by Manthey et al.

Box 2.1. The economic costs of alcohol consumption in Thailand, South Africa and Chile

Thailand

The economic cost of alcohol consumption was estimated to be approximately 156 billion baht (US\$ 4.54 billion) in 2006, amounting to the equivalent of about 2.0% of Thailand's total GDP in that same year (3).³ Indirect costs (96% of the total costs) outweighed direct costs (4%). Among indirect costs, productivity loss due to premature mortality accounted for 66.7% and reduced productivity for 29.1% of the total. Direct costs included health-care costs (3.5% of the total), court costs (0.1%), police costs (0.1%) and property damage costs due to traffic crashes (0.5%). This estimated economic cost is twice the value of the alcohol excise tax revenues generated in the same year (4).

South Africa

The direct, tangible financial cost of harmful alcohol consumption was estimated to be equivalent to 1.6% of South Africa's GDP in 2009. Combined with very substantial additional costs of premature mortality and morbidity, absenteeism and non-financial welfare costs, the total cost of alcohol consumption's harm to the economy was estimated at between 10% and 12% of South Africa's GDP in 2009 (5). The impact of alcohol abuse on premature mortality is undeniable. A 2018 study found that 62 300 premature deaths in 2016 could be attributed to alcohol (6). The alcohol-attributable death burden is disproportionately heavy among lower socioeconomic groups, increasing the wide socioeconomic disparities in South Africa.

Chile

High levels of alcohol consumption, combined with a concentrated pattern of drinking, contribute to a large number of alcohol-related deaths and economic and social costs – both direct (health-care costs incurred to treat diseases and conditions caused by alcohol consumption) and indirect (costs due to premature mortality, crime and violence, among others). A recent study estimated the total economic cost (direct and indirect) of alcohol consumption in Chile to be at least US\$ 2.24 billion in 2017 dollars. This is equivalent to about 12% of the central government's health budget and 0.8% of GDP. Direct costs (i.e. health-care costs) represented 30% of the total costs, while premature mortality costs represented 52%, costs associated with crime and violence 16%, and costs related to alcohol control policies 2% (7). The study found that in 2014

3 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 34.34 baht (2006).

about 13 260 deaths could be directly attributed to alcohol consumption (37 deaths per day). In that year, alcohol consumption resulted in more than 346 000 years of life lost due to premature death and 232 000 years lived with disability. Consequently, more than 570 000 of disability-adjusted life-years (DALYs)⁴ were lost (7).

Costs of treatment of cardiovascular diseases (health-care costs) in 2017 represented 37% of direct costs, followed by non-intentional injuries (22%), digestive diseases (13%), perinatal diseases (10%) and cancers (4%). In terms of deaths directly produced by alcohol consumption, the main causes are liver cirrhosis (3662 deaths), ischaemic heart disease (2053 deaths), stroke (1233 deaths) and self-inflicted wounds (1163 deaths). Even though costs associated with crime and violence are grossly underestimated due to lack of information, they are still significant (about US\$ 350 million in 2017 dollars) (7).

2.3 ALCOHOL CONSUMPTION AND AFFORDABILITY

Key messages

- The health and economic burden to society associated with alcohol consumption is likely to increase.
- One of the determinants of alcohol consumption is its affordability, which is mainly a function of both alcohol beverage prices and average income levels. An increase in the average income levels in many LMICs has made alcohol more affordable in these countries, resulting in increased consumption.
- Comprehensive government interventions – including targeting the affordability of alcohol – are necessary to curb rising consumption and its associated health, social and economic burdens.

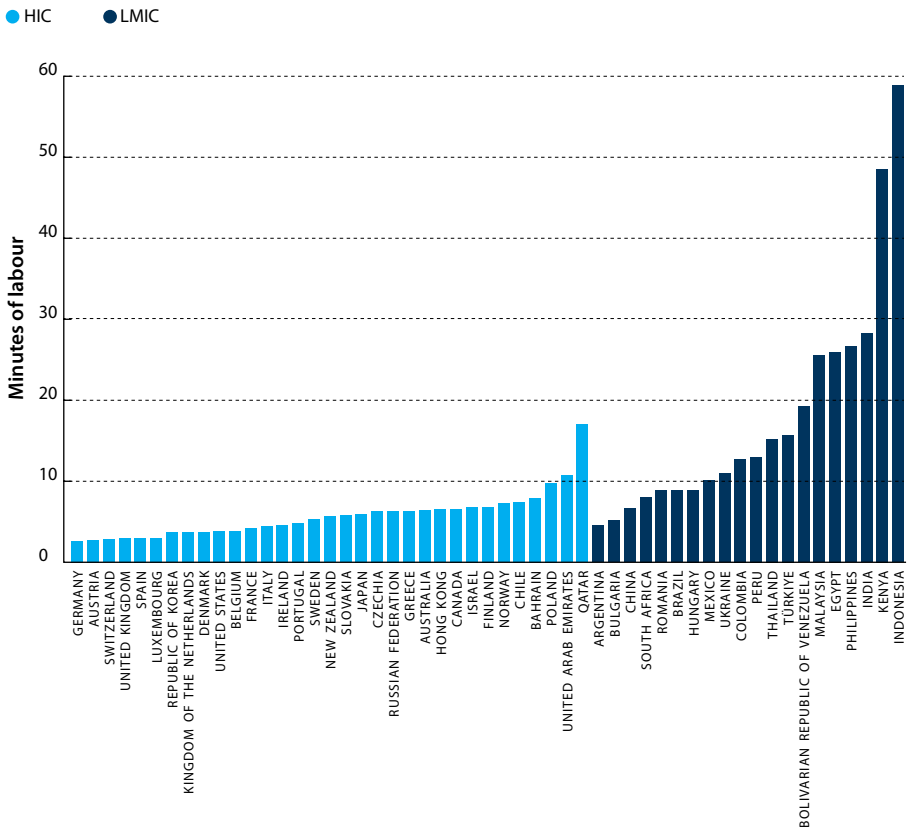
One of the determining factors of the level of alcohol consumption is its affordability, which is mainly a function of price and income (8). Alcohol has become consistently more affordable over time (9) and, in most countries, is much more affordable now than it was 15 years ago.

There are several ways to measure and evaluate the affordability of alcohol. The first is to express the minutes of labour necessary to purchase the cheapest bottle of

4 Improvements in health outcomes are often expressed in DALYs. DALYs are a health measurement outcome that provides a more nuanced picture of health than mortality. DALYs consist of two components, namely years of life lost due to premature mortality and years of healthy life lost due to disability, which measures the impact on an individual's quality of life. One DALY lost represents the loss of one year of full health. Using DALYs as a measure makes it possible to compare the combined morbidity and mortality impacts of different health interventions.

alcohol, where the minutes of labour are usually calculated based on net earnings in a country. For instance, it could be calculated that it takes on average 50 minutes of labour to buy a bottle of beer in country X, while it takes 100 minutes of labour to buy a bottle of beer in country Y. This would make beer less affordable in country Y, as more labour is required to purchase a unit of alcohol. Using this method, Blecher et al. (10) calculated the minutes of labour required to buy a can of beer across a range of HICs and LMICs in 2012 (Fig. 2.1). The results show that it took fewer minutes of labour to purchase a can of beer in HICs than it did in LMICs, meaning that beer was more affordable in HICs (10).

Fig. 2.1. Minutes of labour required to purchase a can of beer, 2012

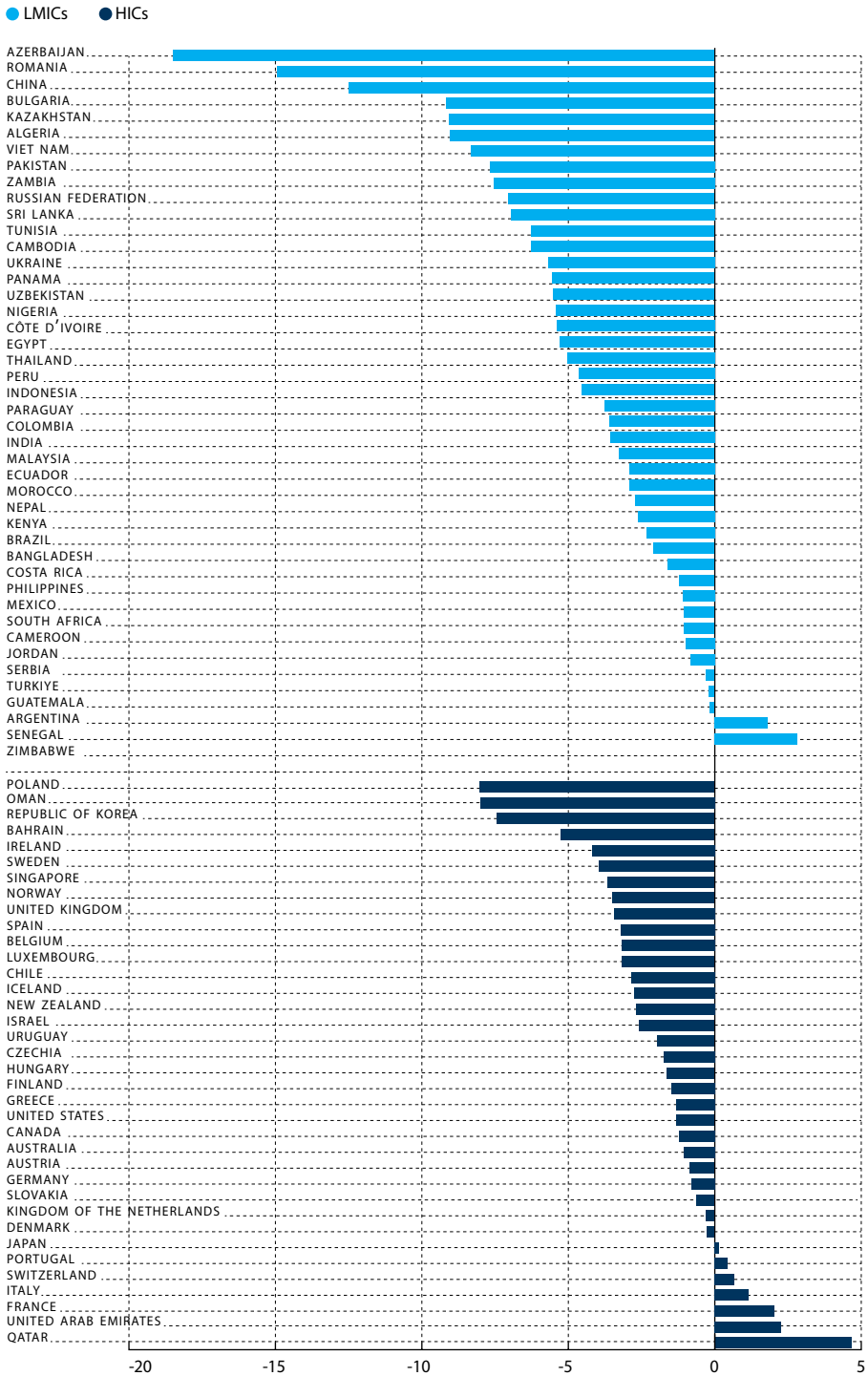


Source: Blecher et al. (10).

A second method to measure alcohol affordability is using the relative income price (RIP). The RIP method is the ratio of price to income. More specifically, it calculates how much of a country's national income is required to purchase a certain amount of alcohol. The RIP can be measured as the percentage of per capita GDP required to buy 100 cans of the cheapest beer in a country. When country X has a higher RIP than country Y, it indicates that alcohol is less affordable in country X. This method is usually easier to implement than the minutes of labour method, as more data are available.

Applying this method, Blecher et al. (10) calculated how affordability had changed over time using the average annual percentage change (AAPC) in affordability (measured using the RIP) from 1990 and 2016. A negative AAPC indicates that the RIP has declined and beer has become more affordable. In the majority of the 92 LMICs and HICs examined in the study, beer became more affordable and, in many countries, at a very rapid rate. For example, some countries in the sample experienced affordability increases of more than 10% per year, meaning that affordability was doubling (products were becoming twice as affordable) approximately every seven years. Only a very small number of countries experienced declining affordability over time, or a positive AAPC in the RIP of beer (1990–2016). The increase in affordability is driven by a decrease in prices and an increase in average incomes over time (Fig. 2.2).

Fig. 2.2. AAPC in RIP of beer, 1990–2016



Source: Blecher et al. (10).

2.4 THE ECONOMIC CASE FOR ALCOHOL TAX AND PRICING POLICIES

Key messages

- Alcoholic beverages are costly to the economy and society as a whole and, without intervention, the harms from these beverages are likely to increase. Policy-makers can use alcohol tax and pricing policies to curb rising consumption and affordability. These policies are justified by economic theory.
- The alcohol market has several market failures, and tax is necessary to correct for these.
- Alcohol market failures include negative externalities (such as societal harms like violence or traffic injuries) and negative internalities (such as long-term harms to the alcohol consumer, their families and communities), which are not fully taken into account in the present.
- **The key message for policy and implementation** is that alcohol tax policies are one of the most cost-effective interventions to decrease alcohol consumption and, hence, improve public health. Policy-makers should consider a well-designed tax system as an integral part of a comprehensive national alcohol policy. Evidence suggests that countries continue to experience net losses from alcohol consumption, indicating that alcohol taxes can be further leveraged to decrease associated internalities and externalities.

2.4.1 ALCOHOL MARKET FAILURES

The previous sections have highlighted the health and economic burdens that alcohol consumption inflicts on society. This section explores the economic theory that forms the basis for government intervention using tax and pricing policies. The market price paid by consumers of alcohol, and particularly by heavy drinkers, does not reflect the true cost to society and instead results in overconsumption of alcohol, which is harmful to individuals and societies. Moreover, excise tax revenues received by governments from alcoholic beverages do not account for the total economic costs of alcohol consumption to society.

Traditional economic theory holds that government intervention may be merited if there are market failures, such as the various negative externalities and internalities present in the alcohol market. Negative externalities are costs that are not borne by the consumer or producer of the product but by others in society or society at large. In the case of alcohol, these costs include disability, morbidity and mortality due to road traffic injuries; intrafamily violence and violence against children; fetal alcohol syndrome; productivity loss; and, in publicly funded health systems, the treatment of the over 200 diseases attributable to alcohol consumption.

Negative externalities arise when individuals do not fully consider or account for the cost of their current actions – for example, the decision to consume large quantities of alcohol – on their future selves. This leads individuals to obtain pleasure from current consumption in the short term, but also leads to long-term net losses in health and income. Failure to account properly for future costs may arise from poorly understood risks of consumption or the addictive nature of some products, such as alcohol or tobacco. The rate of alcohol-attributable mortality from communicable and noncommunicable diseases gives some indication of the poor accounting of future costs of alcohol consumption.

The economic case for alcohol tax is drawn from these market failures and the potential for appropriate tax policies to internalize the associated costs, recuperate losses and reduce consumption.

Taxes are used to correct for negative externalities and internalities. Appropriately structured taxes are a tool that can be used by policy-makers to correct for these negative externalities and internalities, which are not accounted for in market-determined prices that, in turn, lead to overconsumption of alcohol. In theory, internalizing the full costs through raising the market price should reduce consumption of the taxed product. This type of tax is known as a Pigouvian tax. Evidence from 2012 indicates that, globally, all countries experienced a net negative effect from alcohol consumption (11), suggesting that every country could benefit from increases in alcohol taxes. Pigouvian taxes are thus a tool that can be used to improve patterns of drinking and to reduce alcohol consumption at a population level. While evaluating externalities and internalities to their full extent is complex, the estimates of the burden that alcohol places on society listed earlier provide a reliable reference level for excise taxes.

2.4.2 COST-EFFECTIVENESS OF ALCOHOL TAX

Alcohol tax policies have been heavily advocated by researchers as a cost-effective way to decrease the burden from alcohol. Cost-effectiveness analyses provide an improved understanding of the policy measures that best utilize society's resources, and are key to an evidence-based approach to alcohol tax and pricing policy. A global-level analysis evaluating alcohol interventions that aim to decrease alcohol consumption found that increasing excise tax is the most cost-effective of the interventions examined (<Int\$100 per healthy life year gained in both low and high settings), followed by availability and marketing restrictions, and enforcement of drink-driving laws and brief interventions for alcohol problems (12). An increase of 50% in excise taxes, marketing restrictions, and enactment and enforcement of availability and marketing restrictions each have a low cost of implementation, at less than Int\$ 0.10 per capita. The 2021 WHO study *Saving lives, spending less: the case*

for investing in noncommunicable diseases estimates that every US\$ 1 investment in these highly cost-effective interventions has a return on investment of US\$ 8.32 (13).

Regarding health impacts, an increase of 50% in excise taxes has a population health effect of more than 500 healthy life-years gained per 1 million people, while enactment and enforcement of availability and marketing restrictions have a similar population health effect of 200–350 healthy life-years gained per 1 million people. In terms of the costs of these effects, an increase of 50% in excise taxes costs less than Int\$ 100 per healthy life-year gained in both lower- and higher-income settings. Enactment and enforcement of availability and marketing restrictions are also found to be highly cost-effective, at less than Int\$ 100 per healthy life-year gained in lower-income settings, and less than Int\$ 500 per healthy life-year gained in higher-income settings (12).

In a *Lancet* review of evidence on the cost-effectiveness of various alcohol control policies, the authors found that policies that make alcohol less affordable are a highly cost-effective strategy to reduce alcohol-related harm. To estimate cost-effectiveness, the authors compared available, published effectiveness estimates to the costs of implementing tax policies – including the costs associated with implementation of interventions, such as those associated with legislation, enforcement, administration and training. Focusing on the results from countries where alcohol poses a substantial public health problem, the authors found that tax increases (of 20% to 50%) are highly cost-effective in countries with a high prevalence of heavy drinking. In these countries, every DALY saved costs less than Int\$ 500 (14).

These global-level estimates of the cost-effectiveness of alcohol tax are on a par with country-level estimates. For instance, in the HIC New Zealand, a modelled one-off excise tax increase of NZ\$ 0.15 (US\$ 0.10) per standard drink is estimated to reduce the cost of treating transport injuries by NZ\$ 3.6 million, as well as delivering a NZ\$ 240 million reduction in lost productivity, crime and vehicle damage costs. Alcohol tax is found to be highly cost-effective in reducing the injury burden of vehicle crashes (15).

Another study in the United States of America assessed the costs and outcomes of 84 injury prevention interventions, one of which is alcohol tax. The authors found that, in the case of a 20% tax on the pre-tax retail price, the savings from imposing the tax outweighed the costs (16). A 2007 study focusing on the cost-effectiveness of alcohol and tobacco control measures in Estonia found that increasing alcohol tax across beverage categories (by 25% and 50%) is the most cost-effective intervention for reducing hazardous alcohol consumption, saving 759 Estonian kroon (or US\$ 45)⁵ per DALY averted (17).

5 Conversions of amounts from the local currency were made using the official exchange rates from the International Monetary Fund on the date of data collection. The exchange rate used is US\$ 1 = 16.82 kroon (2000).

2.5 INFLUENCE OF TAX AND PRICING POLICIES ON ALCOHOL CONSUMPTION AND HEALTH OUTCOMES

2.5.1 THEORY: EFFECTS OF TAX AND PRICING POLICIES ON THE PRICE OF ALCOHOLIC BEVERAGES AND CONSUMPTION

Key messages

- Tax and pricing policies can affect alcohol consumption by decreasing its affordability.
- The effect of prices on alcohol consumption is determined by price elasticity of demand, while income elasticity of demand measures the responsiveness of consumption to changes in incomes. Finally, the responsiveness of consumption to changes in prices of other alcoholic beverages is measured by cross-price elasticity of demand.
- While policy-makers set taxes, producers and retailers set the prices of alcoholic beverages. Therefore, the effectiveness of taxes to affect affordability will be determined by the proportion of an excise tax that is transferred from the producer or retailer to the alcohol consumer in the form of higher prices. This proportion change is called the pass-through rate.
- Both tax and pricing policies can be used by policy-makers to influence the price of alcoholic beverages.
- **The key message for policy and implementation** is that policy-makers should design policies to influence the affordability of alcohol and achieve public health goals. This requires monitoring of population income and prices of alcoholic beverages, and regularly adjusting for inflation and income growth.

One of the determining factors of alcohol consumption is its affordability, which can be modified by tax and pricing policies. The extent of the effect such policies will have on affordability depends on key factors, including the price elasticity of demand and the pass-through rate. It is important to note that other factors, like acceptability (such as social normalization and marketing) and availability (such as outlet density and location), also determine the level of alcohol consumption.

Elasticity of demand refers to the responsiveness of individuals' demand for alcoholic beverages to changes in specific parameters, including price and income. The three most relevant types of elasticity of demand for alcohol tax and pricing policy-making are own-price elasticity, cross-price elasticity and income elasticity.

- **Own-price elasticity of demand** refers to the extent to which demand for alcoholic beverages changes when the price increases. For most normal goods,

the relationship between demand and price is negative; that is, an increase in price will result in a reduction in demand. Price elasticity measures the extent of this reduction in demand, which can be inelastic, elastic or unitary. Inelastic demand means that an increase in price reduces demand, but less than proportionally. For instance, an own-price elasticity of -0.5 is inelastic and means that a 10% increase in price results in only a 5% reduction in consumption. Demand is elastic if changes in consumption are more than proportional when price changes. For instance, an own-price elasticity of -2 is said to be elastic, meaning that a 10% increase in price results in a 20% reduction in consumption. Unitary elasticity refers to a change in consumption that is proportional to a change in price: when an own-price elasticity is equal to -1 , a 10% increase in price results in a 10% decrease in consumption. Methodologies can be applied to data to measure the elasticity of demand, and these will indicate whether demand is inelastic (the value calculated is smaller than one), elastic (the value calculated is larger than one) or unitary (the value is equal to one).

- **Cross-price elasticity of demand** is similar to own-price elasticity of demand but refers to the change in demand for one alcoholic beverage relative to the change in price of another alcoholic beverage. Different types of alcoholic beverages may compete to satisfy the same needs, in which case they are said to be substitutes, meaning that a person would choose one or the other, but not both. Alcoholic beverages may also complement each other in satisfying needs, in which case they are said to be complements. This relationship is measured using cross-price elasticity. A positive cross-price elasticity signals that a pair of goods are substitutes, while a negative one indicates that they are complements.
- **Income elasticity of demand** measures the extent to which the demand for alcoholic beverages changes when real income increases by 10%. Income elasticity can be either positive or negative, depending on how income affects the demand. A positive income elasticity signals that the alcoholic beverage is a normal good (demand increases with income), while a negative income elasticity signals that said beverage is an inferior good (demand decreases with an increase in income).

Tax and pricing policies are effective if they can increase prices of products. With an effective pricing policy, consumption will decrease according to the product's own-price elasticity. Policy-makers set tax rates, while producers and retailers set the prices of alcoholic beverages. It may happen that producers do not change the prices of alcoholic beverages by the same amount as the tax increase. For instance,

producers may decide to absorb the tax increase and not increase prices by the same proportion. In this scenario, the effect of a tax increase may not have the intended effect on demand. Alternatively, producers may increase alcoholic beverage prices more than the tax increase.

The extent to which taxes result in price changes is referred to as the **pass-through rate**. This measures the proportion of a change in costs, such as a tax change that producers pass through to prices. If the pass-through rate is less than 100%, it means that producers decide not to pass tax increases through to prices fully; this is also called under-shifting. If the pass-through rate is above 100%, it means that producers decide to increase prices by more than the value of the tax increase; this is also called over-shifting.

Empirical evidence shows that pass-through rates vary considerably across countries, and are often a function of market complexity, depending on product heterogeneity, market structure, price level, retailer location and market competition, among other factors. Various studies assume full pass-through or over-shifting of taxes (18, 19) based on estimates from the United States (20, 21). Similar assumptions have been made in the United Kingdom (22). A 2020 meta-analysis of 30 studies from predominantly HICs found that while beer taxes are over-shifted, taxes on other beverages are on average fully passed through (23). Tax pass-through and more country examples are discussed in Box 3.2 in Chapter 3.

It also important to consider that **non-tax pricing policies** can be used to raise alcohol prices. The most common one is establishing a minimum price below which selling alcohol is illegal. The effect of minimum prices is to increase the so-called price floor, and make cheaper alcoholic beverages more expensive. Indirectly, minimum prices may also increase prices for more expensive alcoholic beverages as a result of substitution effects. Minimum pricing policies are the focus of Chapter 4.

Finally, taxes or price increases affect patterns of alcohol consumption, such as initiation of alcohol consumption, binge drinking and driving under the influence of alcohol. These are explored in the following subsection.

2.5.2 EVIDENCE: EFFECTS OF ALCOHOL TAX AND PRICING POLICIES ON PATTERNS OF CONSUMPTION

Key messages

- Changes in the consumption of alcoholic beverages in response to changes in price are nuanced.
- The consumption response to changes in price differs by type of alcoholic beverage (e.g. wine, beer, spirits), sex, age and socioeconomic status. However, the evidence on some of these relationships is limited.

- **The key message for policy and implementation** is that, overall, the relationship between alcohol prices and consumption is negative: as prices increase, consumption decreases. However, individuals respond differently to changes in alcohol prices depending on their socioeconomic, demographic and behavioural characteristics.

This section provides a non-exhaustive summary of the empirical evidence measuring these nuanced responses. There is consistent evidence that an increase in the price of alcoholic beverages will result in a decline in consumption (Table 2.1). A recent comprehensive meta-review found that changes in real prices of alcohol negatively affect alcohol consumption, all else remaining constant (24). Overall, own-price elasticity of alcohol ranges between -0.5 (i.e. a 10% increase in real price would result in a 5% decrease in consumption) in the short term and -0.8 (i.e. a 10% increase in real price would result in an 8% decrease in consumption) in the long term (25). Short-term elasticities are lower than long-term elasticities (in absolute values) because in the long term individuals have enough time to adjust fully to real price changes by substituting the products that experienced real price increases with other products.

In methodological terms, short- and long-term elasticities are derived from models of rational addiction (26, 27), where past consumption is held constant to compute short-term elasticity and future consumption is also considered to compute long-term elasticity. Due to the nature of these models, data used to compute these elasticities come from time-series or panel data recording consumption from individuals across time.

There are also differences in own-price elasticity by beverage type. Estimates suggest that beer is more inelastic or less responsive to price changes than wine and spirits (Table 2.1). Beer elasticity is around -0.3 , while wine and spirits elasticities are around -0.6 (24). These elasticities are not strictly comparable, however, as they are obtained using different methodologies.

Various factors contribute to the price elasticity of demand for alcoholic beverages. For instance, researchers have found that alcohol culture and market share are important determinants: alcoholic beverages with a larger market share are more inelastic (less responsive to price changes) than beverages with a smaller market share (28). The alcohol consumption culture and norms of a country – in terms of the population's beverage preference, the resulting market share and the amount of alcohol consumed – all have impacts on the resulting alcohol price elasticity (29). The differences in elasticity by beverage may therefore be reflective of the type of alcoholic beverage most consumed in a country.

The price elasticity of demand for alcoholic beverages can also differ by population subgroups according to sex or gender, age and socioeconomic status. There is

limited evidence about differences in elasticities according to sex or gender, with mixed results (Table 2.1). The empirical evidence on age shows that an increase in the tax and price of alcohol is associated with reduced alcohol consumption among young people. Within countries, socioeconomic status is a predictor of the price elasticity of demand for alcoholic beverages. Consumers from lower socioeconomic backgrounds tend to be more responsive to changes in the price of alcoholic beverages than wealthier consumers. In addition, some studies have found no significant differences in own-price elasticities between LMICs and HICs.

An increase in the price of one alcoholic beverage (such as beer) may lead to a change in demand for other alcoholic beverages (such as wine or spirits) and/or a change in demand for other non-alcoholic beverages. Such effects are measured by cross-price elasticities. The fact that cross-price elasticities are small or statistically non-significant does not necessarily imply that there is no relationship between products. In certain cases, changes in taxes are similar across different types of alcoholic beverages, which results in little to no change in relative prices. Quite often, studies estimating demand systems do not have enough observations to gauge relationships across products, especially when they are conducted at the individual level.

There is strong evidence of substitution within alcoholic beverage types (such as different beers). For instance, an increase in the price of one brand of beer will increase demand for other brands of beer (30–34). This high substitution between brands implies that consumers may be willing to increase their consumption of relatively cheaper brands if prices are altered because of, for instance, a tax increase. Also, although substitution is weak between types (such as between beer and spirits), close substitution between some products within each type (such as regular-strength beer and dark spirits) can take place (33). These patterns of substitution should be considered, if possible, as they may have important implications for tax/pricing policies.

Evidence for other psychoactive substances, such as tobacco, show that higher prices may deter or defer the decision to initiate (35–38). Early initiation of alcohol consumption is associated with binge drinking (39), which, in turn, is associated with cognitive, structural and functional brain changes in young people, among other negative consequences (40). If alcohol prices deter or defer onset, a likely consequence would be a change in the future pattern of alcohol consumption and its resulting impact on present and future health. Studies conducted in Thailand and Chile on this topic found that an increase in alcohol tax results in a reduction in lifetime prevalence (41), initiation and binge drinking (42).

Regarding the direct effect of prices on binge drinking, the evidence suggests that higher taxes and prices are associated with a decreasing prevalence of binge drinking; in other words, binge drinkers are responsive to alcohol prices (43). Reviews of studies on the effects of prices on binge drinking reveal strong evidence that binge drinkers tend

to choose cheaper alcoholic beverages, and that policies aiming at increasing the price of cheaper alcoholic beverages – especially volume-based specific taxes and combining tax with minimum pricing policies – are effective at reducing binge drinking (44, 45).

Table 2.1. Non-exhaustive overview of evidence on alcohol elasticities

CATEGORY		AUTHOR, YEAR	RESULTS	METHODOLOGICAL DETAILS
Overall		Gallet, 2007 (25)	Short-term own-price elasticity: -0.5 Long-term own-price elasticity: -0.8	Meta-analysis of 132 countries
		Guindon et al., 2022 (24)	Overwhelming evidence that increasing prices negatively affects the consumption of alcohol Evidence that own-price elasticities are negative and statistically significant	Systematic review of 30 reviews (six umbrella reviews, seven meta-analyses, three meta-regressions and 14 narrative reviews)
By beverage type	Beer	Wagenaar et al., 2009 (46)	Own-price elasticity: -0.17	Findings based on a meta-analysis
		Elder et al., 2010 (47)	Own-price elasticity: -0.5	Findings based on a systematic review
	Wine	Wagenaar et al., 2009 (46)	Own-price elasticity: -0.3	Findings based on a meta-analysis
		Leung & Phelps, 1991 (48)	Own-price elasticity: -1	Average of total own-price elasticities from studies that use aggregate-level data
	Spirits	Wagenaar et al., 2009 (46)	Own-price elasticity: -0.3	Findings based on a meta-analysis
		Leung & Phelps, 1991 (48)	Own-price elasticity: -1.5	Average of total own-price elasticities from studies that use aggregate-level data
	Ethanol (i.e. by what proportion the consumption of ethanol from beer, wine and/or spirits decreases when the price of ethanol increases by 1%)	Wagenaar et al., 2009 (46)	Own-price elasticity: -0.4	Findings based on a meta-analysis
		Chen et al., 2016 (49)	Own-price elasticity: -0.77	Meta-analysis with evidence from China

CATEGORY	AUTHOR, YEAR	RESULTS	METHODOLOGICAL DETAILS
By sex or gender	Gallet, 2007 (25)	At the median, women are more responsive to price changes than men.	Meta-analysis of 132 countries
	Nelson, 2014 (50)	Evidence that own-price elasticities for men are more inelastic than those for women	Systematic review of 15 studies, with some methodological limitations
	Kilian et al., 2023 (51)	Inconclusive evidence that alcohol tax and pricing policies have differential impacts on alcohol consumption by gender	Meta-analysis of 36 studies
By age	Chaloupka et al., 2002 (52)	Evidence that the frequency of drinking, and the probability of heavy drinking, among young people can be decreased by increasing the excise tax on beer	Umbrella review
	Elder et al., 2010 (47)	Evidence from the majority of studies concluded that higher taxes and prices of alcoholic beverages were associated with a reduction in general and excessive alcohol consumption among young people	Systematic review

CATEGORY	AUTHOR, YEAR	RESULTS	METHODOLOGICAL DETAILS
By socioeconomic status	Guindon et al., 2022 (24)	Insufficient evidence that a conclusive statement can be made about socioeconomic differences in the price elasticity of demand, as a result of too few reviews commenting on this	Systematic review of 30 reviews (six umbrella reviews, seven meta-analyses, three meta-regressions and 14 narrative reviews)
	Kilian et al., 2023 (51)	Evidence that alcohol tax and pricing policies have a differential impact on consumption of alcoholic beverages across population subgroups – specifically, that there are varying effects by income group	Meta-analysis of 36 studies
	Jiang et al., 2016 (53)	Evidence that the own-price elasticity for eight categories of alcohol (beer, spirits, wine and ready-to-drink beverages sold on site; and beer, spirits, wine and ready-to-drink beverages sold off site) is higher among low-income than middle-income and high-income consumers	Tobit analysis of data from Australia
	Holmes et al., 2014 (54)	Evidence that consumption of alcoholic beverages is estimated to decrease by significantly more for consumers in the lowest income group than for those in the upper income quintiles Evidence that lower-income consumers are significantly more responsive to price	Application of the Sheffield Alcohol Policy Model to consumption data from the 2009 General Lifestyle Survey to model the adoption of a minimum price in England, United Kingdom, from 2014 to 2015

CATEGORY		AUTHOR, YEAR	RESULTS	METHODOLOGICAL DETAILS
By country economic status		Guindon et al., 2022 (24); Sornpaisarn et al., 2013 (55)	No significant differences in own-price elasticity in LMICs versus HICs	Systematic reviews
Cross-price elasticities	Other alcoholic beverages	Ornstein, 1980 (56)	No consistent results for cross-price elasticities	Review study
		Edwards, 1994 (57)	Evidence that cross-price elasticities are very small	Review study
		Guindon et al., 2022 (24)	Evidence that cross-price elasticities are small and imprecisely measured	Systematic review
	Psychoactive substances (e.g. tobacco or illicit drugs)	Burton et al., 2017 (43)	Mixed and non-robust evidence on cross-price elasticities between alcohol and other psychoactive substances	Umbrella review
	Tobacco	Chen et al., 2016 (49)	Evidence that alcohol and tobacco are substitutes, although cross-price elasticities are fairly small	Meta-analysis with evidence from China
Within alcohol types	Rojas et al., 2008 (30); Gruenewald et al., 2006 (31); Meng et al., 2014 (32); Srivastava et al., 2015 (33); Ruhm et al., 2012 (34)	Evidence that an increase in the price of, for instance, a brand of beer will increase the demand for other brands of beer	Differing methodologies	

CATEGORY	AUTHOR, YEAR	RESULTS	METHODOLOGICAL DETAILS
Alcohol consumption initiation (onset)	Sornpaisarn et al., 2015 (41)	Evidence that a 10% increase in alcohol taxes is associated with a 4.3% reduction in the lifetime prevalence of drinkers among Thai young people	Panel data for Thailand, 2001–2011
	Paraje et al., 2021 (42)	Evidence that price elasticity of delay in initiation is -0.99 , which implies that a 10% increase in real alcohol prices is associated with a delay in initiation of approximately 6.6 months	Panel data analysis of Chilean young people
Binge drinking, overall	Jackson et al., 2010 (45); Booth et al., 2008 (44)	Evidence that policies aimed at increasing the price of cheaper drinks are effective at reducing binge drinking	Systematic reviews

2.5.3 EVIDENCE: EFFECTS OF ALCOHOL TAX AND PRICING POLICIES ON HEALTH OUTCOMES

Key messages

- Alcohol tax and pricing policies are efficient policies to improve health, social and economic outcomes by saving life-years and DALYs and reducing health-care expenditure.
- The relationship between alcohol tax and pricing policies and health outcomes is substantiated by both empirical and modelling evidence.
 - Empirical evidence has shown that alcohol tax and pricing policies have resulted in a decrease in alcohol-attributable mortality and morbidity.
 - The Strategic Public Health Planning for Noncommunicable Diseases (SPHeP-NCDs) model of the Organisation for Economic Co-operation and Development's (OECD) can be used to illustrate the potential impact of alcohol tax and pricing policies on health outcomes – specifically DALYs and life-years.
- **The key message for policy and implementation** is that alcohol tax and pricing policies are effective to prevent health-care expenditure related to the harm caused by alcohol consumption. They should be an integral part of a comprehensive approach to reduce the harms caused by alcohol consumption in a country.

The previous subsection highlighted the impacts of alcohol tax and pricing policies on decreasing alcohol consumption. The evidence consistently shows a negative relationship between alcohol pricing and tax policies and alcohol-related health harms. This section explores the impacts of alcohol tax and pricing policies on health outcomes – both empirical and modelled – focusing on the OECD SPHeP-NCDs model.

2.5.3.1 Empirical evidence: effects of alcohol tax and pricing policies on health outcomes

A 2010 systematic review of the effects of alcohol tax and pricing policies on health outcomes calculated meta-estimates of 50 studies and found that, when alcohol taxes are doubled, alcohol-related mortality decreases by an average of 35% (58). For example, Lithuania began implementing a range of alcohol control policies in the early 2000s. Using interrupted time-series analysis, one study showed that the significant increases in excise taxes in Lithuania in March 2017 (111–112% for fermented beverages, wines and beer; 91–94% for intermediate products; and 23% for ethyl alcohol) were significantly associated with a reduction in all-cause and alcohol-attributable mortality, especially among men. More specifically, there were 1346 fewer all-cause deaths among men in the year after the tax increase (59).

Focusing on the two tax increases in Alaska, United States, between 1983 and 2002, Wagenaar et al. (60) found statistically significant reductions in deaths caused by alcohol-related diseases. These reductions were 29% in 1983 and 11% in 2002, and they did not dissipate over time. A similar analysis in Florida, United States, found significant reductions in heavy alcohol consumption-related mortality after increases in taxes. Essentially, a 10% increase was associated with a 2.2% decline in these deaths (61).

Alcohol taxes and prices are frequently linked to a decline in alcohol-related liver disease. A panel analysis of 30 states in the United States, between 1971 and 1998, found that tax on distilled spirits (but not wine and beer) was significantly and negatively associated with liver cirrhosis rates (62). Observing alcohol policy in Finland in 2004 (when European Union import quotas for alcoholic beverages were abolished and excise duties were decreased), researchers measured a 46% increase in alcohol-induced liver disease deaths from 2001–2003 to 2004–2006 (63).

Alcohol tax and pricing policies are also frequently linked to a decline in traffic crashes, violence and crime. This negative correlation has been confirmed in two systematic reviews (47, 58). The 2010 systematic review by Wagenaar et al. found that a doubling of the alcohol tax would also reduce rates of traffic crash deaths by 11%, violence by 2% and crime (such as sexual assault, rape, child and spouse abuse, fights, probability of victimization and injury caused by violence) by 1.4% (58).

Similar findings on traffic crashes and violence were reported in a systematic review by Elder et al. (47).

More recent studies support this narrative. In Illinois in the United States, an alcohol tax increase that resulted in an increase in the average retail price of alcoholic drinks resulted in a 26% decrease in fatal alcohol-related traffic crashes in the 18 months that followed, with larger declines among individuals younger than 30 years old (64). In an analysis of minimum alcohol prices in Saskatchewan, Canada, researchers found that the introduction of increased minimum alcohol prices was associated with an acute reduction in night-time alcohol-related traffic offences by men. The authors found a significant decline in violent offences 4–6 months after the effect, and speculated that this delayed effect might have been due to bars delaying the increase of their prices (65).

Alcohol taxes have also been linked to lower rates of sexual transmitted diseases. In another United States-based study of the impact of state alcohol taxes between 1981 and 1995, researchers found that a US\$ 1 increase in the per-gallon liquor tax reduced gonorrhoea and syphilis rates by 2.1%, while a US\$ 0.2 per six-pack increase in the beer tax reduced gonorrhoea and syphilis rates by 8.9% (66). Similarly, Grossman et al., focusing only on teenagers and young adults, found that alcohol taxes were significantly and negatively associated with a reduction in gonorrhoea rates (67).

2.5.3.2 Modelling evidence: effects of alcohol tax and pricing policies on health outcomes

Alcohol tax and pricing policies can have far-reaching benefits for health outcomes. This is well illustrated by the OECD SPHeP-NCDs microsimulation model, which can be used to model the impact of alcohol tax and minimum pricing (MP) on harmful alcohol consumption in 48 countries⁶ (68).

The results from two policy interventions as reported by the OECD (69) are shown here.

- The first policy consists of a 10% tax-induced price increase.
- The second policy establishes a minimum price targeting the cheapest segment of the market, corresponding to about 29% of the alcohol sold in the country and entailing a 28% price increase (ranging from 23% to 37%, depending on the type of alcoholic beverage) for these products.

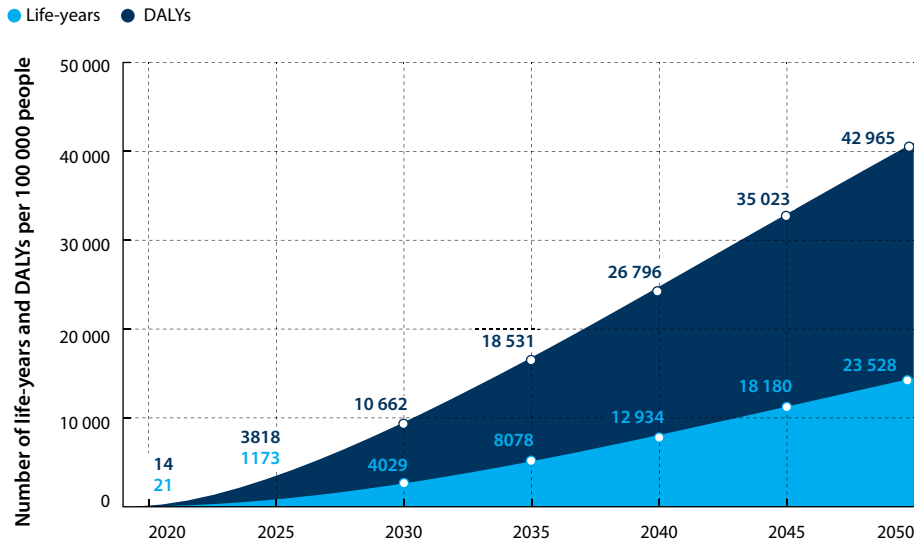
The outputs from these simulations are presented in Fig. 2.3 and Fig. 2.4., which show the modelled impacts of the tax and pricing policies on life-years and DALYs. The

⁶ These 48 countries include OECD and non-OECD European Member States, as well as Brazil, China, Costa Rica, India, the Russian Federation and South Africa.

simulation results show that increasing taxes would result in 22.5 million life-years gained by 2050 in the 48 countries analysed, and implementing MP would result in 20.2 million life-years gained. Increasing taxes would save up to 37.7 million DALYs cumulatively by 2050 in the 48 countries, and implementing MP would save 34.5 million DALYs. The effect of these interventions on DALYs does not decline over time.

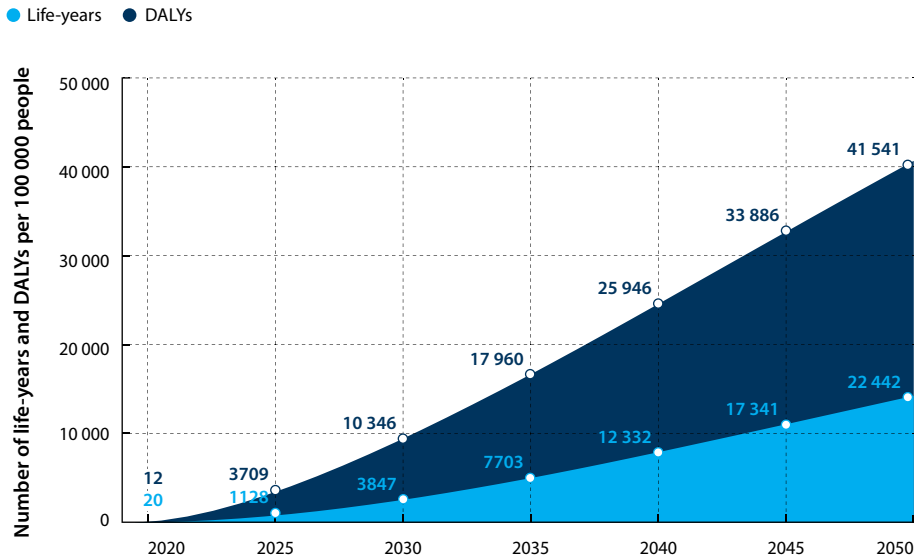
Once results are standardized by population size, increasing taxes is predicted to save 23 500 life-years and implementing MP to save 22 400 life-years per 100 000 population (Fig. 2.3 and Fig. 2.4). The interventions would save 43 000 DALYs and 41 500 DALYs per 100 000 population, respectively. The effect on DALYs (measuring morbidity) is generally larger than that on life-years (measuring life expectancy). This means that by reducing the occurrence of diseases and lethal and non-lethal injuries, both interventions have an effect on DALYs greater than the mortality risk reduction alone.

Fig. 2.3. Impact of raising taxes on life-years and DALYs per 100 000 population, 48 countries, cumulative over 2020–2050



Source: OECD (69).

Fig. 2.4. Impact of MP on life-years and DALYs per 100 000 population, 48 countries, cumulative over 2020–2050

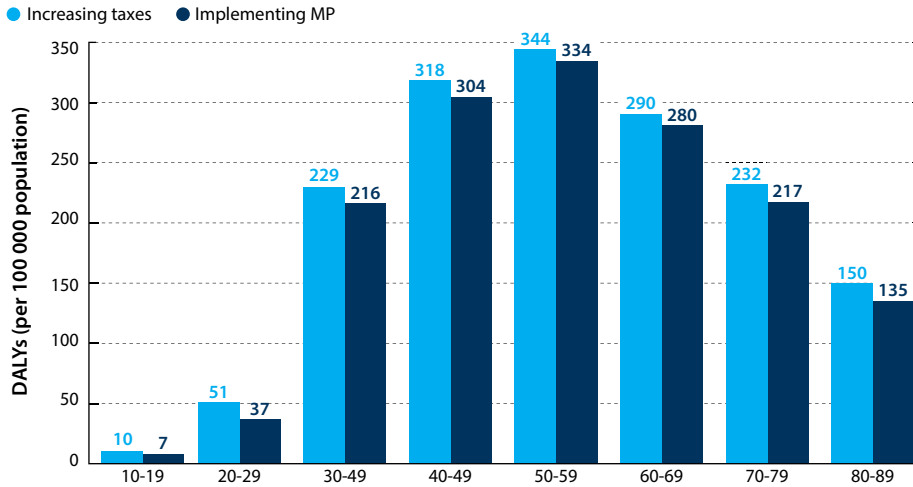


Source: OECD (69).

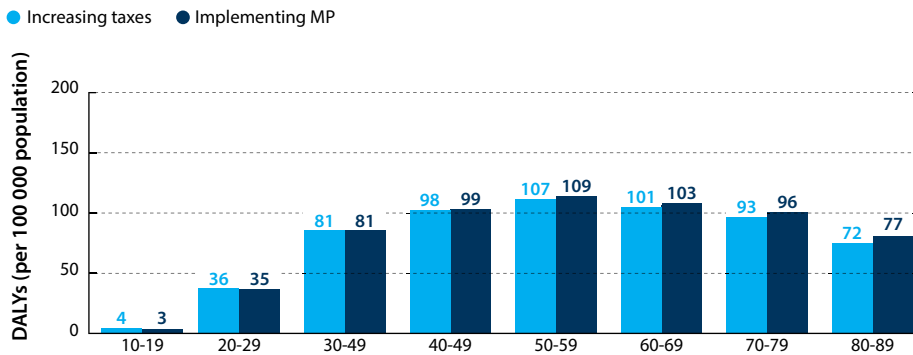
The model estimates that by increasing taxes, 73.1 million cases of alcohol dependence and 2.8 million cases of injury would be prevented between 2020 and 2050 in the 48 countries analysed. By implementing MP, 74.2 million cases of alcohol dependence (amounting to 7% of all dependence cases attributable to alcohol) and 2.4 million cases of injury would be prevented. Thus, there is great scope for potential further action to either scale up existing interventions or introduce new ones to make a substantial impact on alcohol-attributable disease incidence.

Both interventions are predicted to save a great number of DALYs, especially among working-age men in the countries analysed. Increasing taxes would save approximately 344 DALYs and implementing MP around 335 DALYs per 100 000 population in men aged 50–59 years annually (Fig. 2.5). Men aged 40–49 years also benefit, with about 305 DALYs saved from increasing taxes and 318 DALYs saved from implementing MP per 100 000 population annually.

The effects are smaller among women (Fig. 2.6): increasing taxes saves about 107 DALYs among women aged 50–59 years and about 98 DALYs among women aged 40–49 years; implementing MP saves about 110 DALYs among women aged 50–59 years and 99 DALYs among women aged 40–49 years per 100 000 population annually.

Fig. 2.5. Impact on DALYs for men, 48 countries, average per year, by age group

Source: OECD (69).

Fig. 2.6. Impact on DALYs for women, 48 countries, average per year, by age group

Source: OECD (69).

The simulations show that increasing taxes and implementing MP are highly effective methods to prevent chronic diseases and injuries, as well as to save life-years and DALYs. The population group that would benefit most is men aged 40–59 years. The simulations also show that both interventions generate significant savings in health-care expenditure, and both are predicted to save Int\$ 4 per capita annually on average in the 48 countries analysed. However, these savings differ significantly across regions and countries, largely depending on the level of alcohol consumption in those countries and the level and cost of health-care expenditure. Overall, increasing taxes is predicted to save about Int\$ 202.8 billion and implementing MP about Int\$ 207.0 billion across all 48 countries cumulatively by 2050.

While this chapter focuses largely on the impact of pricing and tax policies on alcohol consumption and public health outcomes, tax policies are also an effective resource mobilization tool. However, the effectiveness of tax policies as a tool to increase government revenue rarely compensates for the vast economic, social and health burdens that alcohol consumption imposes on society (see Box 2.2).

Box 2.2. The revenue potential of alcohol tax policies versus the economic costs of alcohol consumption

Alcohol taxes have been implemented by governments for many centuries, but are largely used as a tool for revenue generation rather than to improve public health. The relative importance of alcohol tax as a source of revenue decreased in most developed and industrialized countries during the 20th century, after the emergence of modern tax systems that relied on income taxes, sales taxes and value-added tax (VAT) (70). Alcohol taxes are still an effective source of revenue in the absence of more direct forms of tax, largely due to their low levels on average and relative price inelasticity, and they can also be used as an effective tool to achieve public health goals. These tax revenues are lower than the health, social and economic costs caused by alcohol consumption, however. Hence, the impact on society remains net negative, as illustrated by the following two country case studies.

Thailand

Alcohol excise tax is an important part of Thai government revenue. In 2020, at around 143 million baht (US\$ 96 183.5 million),⁷ it accounted for 25.9% of the total excise tax revenue and 5.0% of the total government revenue (71). While alcohol taxes generate significant tax revenue, however, it is not enough to compensate for the increased health and social costs resulting from alcohol consumption. The economic cost of alcohol consumption was estimated to be approximately 156 billion baht (US\$ 4.54 billion) in 2006 (3).⁸

7 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 29.77 baht (2020).

8 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 34.34 baht (2006).

South Africa

Alcohol excise taxes contributed about 29 billion rand (US\$ 1.9 billion) to government revenue in 2019 (72).⁹ The relative contribution of alcohol taxes to total government revenue has increased slowly over the past decade, and reached about 2% in 2019. While its contribution to government coffers is often foregrounded, especially by the industry, alcohol consumption imposes a very substantial cost on South African society. A conservative 2010 estimate of the financial cost of harmful alcohol use was 37.9 billion rand (60.15 billion rand/US\$ 4 billion in 2019 prices),¹⁰ or 1.6% of the 2009 GDP. However, if intangible economic costs are included, such as the costs of premature mortality and absenteeism from work, this percentage increases to 10–12% of the 2009 GDP (5).

9 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 15.195 rand (2019).

10 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 15.195 rand (2019).

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CHAPTER 3

Alcohol excise tax and pricing policies: theory, practice and empirical evidence

3.1 INTRODUCTION

A fundamental concept in economics is the law of demand: when the price of a product increases, consumer demand for that product decreases. Given the significant health and economic costs that alcohol imposes on societies, increasing the price of alcohol to reduce its use is an important policy tool, and a very effective one. Excise taxes – compulsory payments to the government – are the most important tool governments have to raise prices and reduce consumption, but they can also serve to fund public expenditure (1).

A range of economic challenges, policy goals and other factors needs to be considered when designing the ideal alcohol tax structure for any country. These factors are discussed briefly here, as a guide to the key questions policy-makers should be asking when designing an alcohol tax policy.

Taxes can be considered direct or indirect. Alcohol taxes, as described in this manual, are indirect taxes, which are levied on goods and services purchased or consumed rather than on income. In contrast, direct taxes like income tax are paid directly by the organization that earns them. Three main categories of indirect taxes can be imposed on alcoholic beverages: general taxes, import tariffs and excise taxes (2). The government imposes general taxes on all – or almost all – goods and services through sales tax, goods and services tax, and value-added tax (VAT). These sales taxes apply to almost all goods and services, often at the same rate. Import tariffs (or customs duties) are imposed on goods imported into a particular country and create a barrier to protect similar domestically produced goods. Excise taxes are imposed on a narrow range of products – such as luxury goods and goods that generate negative externalities and internalities (alcoholic beverages, tobacco products, sugar-sweetened beverages, fossil fuels and so on). This connection could be reinforced further by specifically allocating the proceeds obtained from an excise tax to support government activities to prevent or reduce these externalities and internalities.

Compared to the other indirect taxes, excise tax is considered the optimal tool to influence consumption of alcohol without affecting demand for other goods.¹² Increasing import tariffs, for example, would affect the prices of imported goods but would not necessarily affect prices of domestically produced goods to the same extent. Furthermore, import tariffs are limited by international obligations, including trade agreements and World Trade Organization rules. Increasing general tax would affect not only alcoholic beverages but also all other goods. Excise tax, however, can be targeted at specific products, affecting relative prices regardless of where those goods are produced. Therefore, the main instrument governments should use simultaneously to generate tax revenues and to reduce alcohol consumption and its related harms is excise tax. For this reason, this chapter focuses on the design of excise taxes on alcohol beverages.

Section 3.2 explains how to align tax policy design with policy objectives of alcohol control. Section 3.3 contains a description of the various excise tax types and bases, and how they respond to the factors described in section 3.2. Section 3.4 discusses the concept of product heterogeneity and how it adds to the complexity of alcohol tax policy. Three annexes present case studies from individual countries – Thailand in Annex 3.1, South Africa in Annex 3.2 and Chile in Annex 3.3 – on their alcohol taxation structures.

3.2 DESIGNING EXCISE POLICIES ALIGNED WITH PUBLIC HEALTH OBJECTIVES

The choice of an alcohol excise tax structure should be determined by the country's policy goals. An appreciation of the features and attributes of various alcohol tax structures is necessary to ensure that the alcohol tax system is well designed to achieve public health policy goals. These goals may vary among countries and even over time. For example, one country may focus on raising the prices of cheap alcohol to reduce young people's access; another country's goal may be to reduce overall alcohol consumption. These different goals could have a significant impact on the choices of tax structure. Therefore, tax policy-makers, practitioners and administrators should ask many questions during the process of developing an alcohol tax policy. These include how the choice of tax structure will affect tax revenues, the distribution of prices among different types of alcoholic beverages or within specific beverage types, and the impact of drinking behaviours among young people or heavy drinkers, as well as how best to ease collection and administration. The various choices available to policy-makers all affect these outcomes.

12 However, an increase in excise tax may affect demand for products that are complements or substitutes of alcoholic beverages.

Alcohol excise tax alone is not sufficient to pursue governments' policy objectives of addressing alcohol-related harms. Alcohol taxes are highly cost-effective at reducing alcohol consumption, but their impact on patterns of drinking (such as binge drinking) requires a comprehensive package of interventions that tackle upstream the causes of alcohol consumption. While the goal of increasing taxes is to increase prices, a well-designed tax system may be supported by additional pricing policies (such as minimum pricing) to achieve policy objectives. Chapter 4 considers pricing policies separately. However, pricing policies are not a substitute for alcohol tax policy; rather, they are most effective when they support a well-designed tax system.

The capacity and resources of the tax authorities efficiently and effectively to implement, administer and, ultimately, collect the tax must also be considered when making key decisions regarding alcohol tax policy. Well-designed alcohol-content-based specific taxes, tiered rates and mixed structures can increase the effectiveness of alcohol tax by generating stronger incentives for firms to reformulate alcoholic beverages and for consumers to reduce consumption. Nevertheless, they also introduce complexity, adding to the administrative burden, and may create tax avoidance opportunities – all of which may undermine their effectiveness. Furthermore, poorly designed systems may fail to generate the desired incentives, or may even be counterproductive. Simpler uniform structures like volumetric/unitary specific taxes are easier to administer, and may be more appropriate in countries with fewer resources or weaker tax administration capacity.

In addition to these considerations, other political economy factors – including international trade, agriculture and domestic economic considerations – may influence a country's alcohol tax and pricing policy choice. This chapter considers the design of alcohol tax policies, following theoretical and practical considerations as well as empirical trends. It considers the choice of tax structures in the context of various economic challenges, including consumer price responsiveness, the tax pass-through rate and product heterogeneity. The next section provides a detailed and thorough analysis of different excise tax structures for alcoholic beverages and their impacts on alcohol consumption and related harms, public health, tax revenues and implications for tax administration.

3.3 EXCISE TAX STRUCTURE OPTIONS FOR ALCOHOLIC BEVERAGES

Key messages

- Policy goals, tax administration capacity, political economy factors and the structure of the alcohol market must be taken into consideration when designing a tax system. Governments have several options for alcohol tax

structures based on these considerations, including the type of tax, the tax base, whether to implement uniform or tiered rates and whether to mix tax types and bases.

- The advantages of ad valorem excise taxes are that the tax burden grows along with alcoholic beverage prices, and that taxes are higher for higher-priced or perceived higher-quality products. Disadvantages include revenue sensitivity to price trends, vulnerability to producers' pricing strategies that keep low-priced alcoholic beverages affordable, trading down from high- to low-priced beverages and challenges for tax administration in terms of dealing with undervaluation and under-shifting of tax increases. Ad valorem taxes are probably best as a revenue-generating tool for high-priced beverages when used as part of a mixed structure. Furthermore, ad valorem taxes are not advised for countries without strong tax administration capacity.
- The advantages of specific excise taxes are that they provide revenue stability and are relatively easy to administer and collect. They also reduce the incentive to shift demand to cheaper beverages – particularly in response to tax increases. Disadvantages include vulnerability to inflation and economic growth. Specific taxes are advised for all countries; however, the exact configuration is dependent on the policy goals and tax administration capacity of each country.
- Specific excise taxes can be based on beverage volume (volumetric/unitary) or alcohol content. Alcohol-content-based specific taxes are most effective at minimizing consumption of ethanol and alcohol-related harms. They are widely adopted, and are considered the best design to reduce the health harms of excessive drinking. Volumetric/unitary specific taxes are most effective in raising prices of cheap alcohol, thereby reducing alcohol affordability, curbing initiation and reducing the consumption of low-strength and low-priced beverages.
- Countries can also mix excise tax types and bases to balance the advantages and disadvantages of each. Similarly, countries may choose between imposing a uniform rate or tiered rates. Although tiered rates may be justified when the rates increase with higher alcohol content, this objective can also be achieved by using alcohol-content-based specific taxes. Tax thresholds may be applied to ease tax administration and to generate additional incentives for manufacturers to lower alcohol content.
- **The key messages for policy and implementation** are that specific taxes are more effective at reducing consumption and drinking initiation than ad valorem taxes. Volumetric-specific taxes may be more effective than other tax structures in delaying drinking initiation, and are the easiest to administer.

Alcohol-content-based taxes may incentivize product reformulation to produce beverages with less alcohol content and new marketing practices of the industry, which may reduce consumption beyond the impact of the tax-driven demand decrease.

A number of **excise tax types** exist. In its simplest form, alcohol excise tax can be applied to either the volume or the value of the beverage. Excise taxes applied to the volume are called specific taxes¹³ – an example is a US\$ 1 excise tax levied per litre of absolute alcohol. Excise taxes based on the value are called ad valorem taxes (meaning “of value” in Latin) – an example is a 10% excise tax levied based on retail prices or the ex-factory price. Specific and ad valorem taxes are not unique to alcohol excise taxation; the terms are used to refer to all volume-based (specific) and value-based (ad valorem) taxes on consumer goods. Most often with alcohol taxes either an ad valorem or a specific tax is applied. However, in some cases, both ad valorem and specific taxes are applied to the same type of alcoholic beverage. This is called a mixed tax structure. Specific and ad valorem taxes have very different attributes, consequences and implications on both the supply side and the demand side of the market.

Both specific and ad valorem taxes must be applied to an **excise tax base**. Ad valorem excise taxes can be applied at different points in the supply chain, and therefore taxes can be based on values early in the supply chain (such as ex-factory prices for domestically produced alcoholic beverages or the cost, insurance and freight (CIF) value for imported alcoholic beverages) or at a late stage in the supply chain (for example, retail prices). Specific taxes on alcoholic beverages are usually based on one of two characteristics: the volume of the beverage (sometimes called volumetric or unitary taxes) or the volume of the alcohol content and hence the alcohol strength of the beverage. These two different specific tax bases may lead to different health and revenue outcomes, and thus the attributes of each are considered separately, as if they are two distinct types of taxes. In other words, this section groups tax types and bases into three primary categories: ad valorem taxes, specific taxes based on beverage volume and specific taxes based on alcohol content.¹⁴

13 Another term for specific taxes is “ad quantum” taxes.

14 A previous WHO publication (3) described three types of alcohol tax: unitary, based on the product volume; specific, based on the alcohol content; and ad valorem. The terms used in this manual differ from that categorization but align with the literature by defining only two types of excise tax for alcohol: specific and ad valorem. The specific tax can be volume-based or alcohol-content-based. To reconcile the terms used in this manual with those in the previous publication, readers should note that the terms “volume-based specific tax” and “volume-based tax” refer to what was called a “unitary tax” in that publication, while the terms “alcohol-content-based specific tax” and “alcohol-content-based tax” refer to what was called “specific tax”. Ad valorem tax remains the same.

It should also be noted that alcohol content in this manual is measured using the nomenclature of alcohol by volume (ABV), expressed as a percentage, as its standard terminology (discussed in section 1.6.2 of Chapter 1). However, several other common measurements of alcohol strength are used in country tax policies. Section 3.3.3 includes these various measurements to assist with interpretation of these tax policies.

Price responsiveness or price elasticity of demand refers to the responsiveness of demand to changes in prices. Responsiveness to price changes often differs across individuals and alcoholic beverage types (see Chapter 2). Differing price responsiveness should be considered when setting alcohol tax policy, depending on the policy goal. For instance, if the goal is to reduce drinking among young people or heavy drinkers, policy-makers should consider whether these consumers are responsive to the increased prices of alcoholic beverages that are the result of the policy.

Even when alcohol taxes are increased, the decision about what proportion of the increase is passed on to the final prices (i.e. the **tax pass-through rate**) is decided by the manufacturer or retailer. Taxes may sometimes be over-shifted or under-shifted to prices, or the tax may be passed through in equal proportion to the tax increase. Manufacturers and retailers may adopt various pass-through rates for different alcoholic beverages, depending on their scope for manipulation, as determined by the tax structure. The ability of a policy-maker to affect prices and policy is partially determined by the pass-through rate. Tax pass-through and the implication of what proportion of the tax increase is passed on to final prices is discussed in Box 3.1.

Box 3.1 Tax pass-through

Even when alcohol taxes are increased, the decision about what proportion of the tax increase is passed on as higher prices (i.e. the pass-through rate) is decided by the market power and pricing strategies of alcohol producers, manufacturers, distributors and retailers. In general, the evidence shows that taxes are usually passed on to retail prices quickly – most often within a few weeks of their increase. Additional factors that affect the pass-through rate include market concentration and price elasticities (4). For instance, it may be that when market power is concentrated in one or a few firms, taxes are likely to be over-shifted to the retail price. However, empirical evidence has shown that if there is market concentration and a lack of competition, a wide range of possible pricing strategies might be adopted by industry, depending on the curvature of the demand curve (5).

When prices increase by more than the tax increase, or the pass-through rate is greater than 100%, taxes are said to be over-shifted. When prices increase by less than the tax increase, or the pass-through rate is less than 100%, taxes are said to be under-shifted. The less competitive (or more concentrated) a market is, the more likely taxes are to be over-shifted; thus, the higher the likely pass-through rate will be. Furthermore, alcoholic beverages that have more inelastic demand and fewer substitutes (products with fewer substitutes tend to be more price inelastic) tend to have higher pass-through rates as well.

Tax structures also influence tax pass-through rates by generating incentives for firms to under- or over-shift tax increases. Ad valorem taxes tend to result in under-shifting, while specific taxes tend to favour over-shifting.

In the case of alcohol, several studies have examined pass-through rates. A recent systematic review and meta-analysis found that beer taxes are, generally, over-shifted, while wine and spirits taxes are fully shifted to prices (the pass-through rate equals 100%). When publication selection bias is controlled for, however, no significant under- or over-shifting of alcohol taxes is found for any beverage type (5).

A study of state and federal alcohol taxes in the United States found that taxes on beer, spirits and, to a lesser extent, wine are over-shifted to consumer prices. Furthermore, price adjustment is fairly rapid, as prices fully respond to tax changes within three months (6). Research conducted using longitudinal data for beer, wine and spirits in 27 OECD countries found that excise taxes on wine and certain spirits (including cognac and Cointreau liqueur) are over-shifted, and those on gin are under-shifted (7).

A study conducted with supermarket alcohol prices in the United Kingdom examined the effects of three excise tax changes on prices: two VAT changes and one combined excise and VAT change. Importantly, the study found that the pass-through rate varies by the price level of the alcoholic beverages: relatively cheaper alcoholic beverages tend to under-shift tax increases, while for relatively more expensive beverages, taxes are over-shifted (8). This pattern of cross-subsidizing the tax increases on relatively cheaper alcoholic beverages with relatively more expensive beverages may reduce the effectiveness of alcohol tax policies. Through that strategy, prices of relatively cheaper alcoholic beverages are kept lower than they would otherwise be if all tax increases were fully passed through. Specifically, this is likely to undermine the effect of tax increases among groups who tend to drink cheaper alcohol – for example, heavy drinkers or young people (9). This result is corroborated by the study of OECD countries, which also found that tax pass-through rates are higher for beverages with higher prices.

Tax pass-through also varies by package type and container size. As the volume of the container increases, so the magnitude of the over-shifting declines. This is

confirmed by research on beer in South Africa, which shows that specific taxes based on alcohol content are over-shifted. However, the pattern of over-shifting varies substantially by package type and container size: smaller package sizes are over-shifted more than larger ones (10).

In summary, there is strong evidence that alcohol taxes are at least fully passed through to prices for most beverages, and especially for beer, for which they are usually over-shifted. There is evidence that the more expensive the beverage, the higher the pass-through rate, which is consistent with economic theory and what is found in, for instance, tobacco markets (11). In addition, as in other markets, the shifting of taxes to prices occurs relatively quickly, which implies that changes in tax rates are likely to affect behaviour quickly.

Because of the **wide range of alcoholic beverages** and the significant heterogeneity within alcohol categories and beverage types, many countries adopt differing tax types and rates for different alcoholic beverages. These choices are affected by several factors, including varying patterns of consumption within and among countries, price heterogeneity, varying contributions to total alcohol consumption and harm, and even the popularity of alcoholic beverages among heavy drinkers and young people and their role in alcohol initiation. In almost all countries, tax types, bases and rates vary by alcoholic beverage types, based on a multitude of product attributes including price, alcohol content, size or type of manufacturer. This remarkable range of product features – along with the various options of tax types, bases and rates – makes the design of alcohol tax structures challenging (12). Section 3.4 further evaluates how product heterogeneity may influence alcohol tax policy design, and how this may affect countries' ability to achieve their alcohol tax policy goals.

Tax types, bases and rates vary by alcoholic beverage types (beer, cider, still wine, sparkling wine, spirits and so on). Within each of these beverage types, both specific and ad valorem taxes can be applied uniformly, with the same rate applied to all products of a beverage type. In some cases, however, different rates are applied to products of the same beverage type, based on a multitude of product attributes including price, alcohol content, size or type of manufacturer. These types of taxes are called **tiered taxes**. A tier that does not have any tax applied to it is called a threshold; for example, if no tax is applied to an ABV below 1% but US\$ 1 per litre is applied to an ABV of 1% or greater, then this tier of less than 1% ABV is considered a threshold.

The various tax structures have significant implications, including their impacts on prices, consumption, alcohol-related harms, revenue and tax administration.

The following sections describe the tax structures and discuss their implications to assist policy-makers in designing the most efficient and effective alcohol excise taxes to meet their specific needs, objectives and capacity.

3.3.1 AD VALOREM (VALUE) TAXES

3.3.1.1 Impact on affordability and consumption

Ad valorem taxes have **advantages** when it comes to their impact on affordability and consumption of alcoholic beverages. The most notable of these is that they **automatically adjust with alcoholic beverage prices**. Ad valorem taxes are not considered the preferred method for alcohol taxation. However, they do have an advantage compared to other types of taxes in that they have a built-in mechanism to adjust for inflation, because ad valorem taxes are set as a percentage of a product's value (for example, of the ex-factory or retail price). Therefore, as the cost of inputs rises with inflation, so will the tax base. This results in an increase in the amount of tax per unit, even though the tax rate remains unchanged. For instance, the absolute tax amount from 10% ad valorem tax levied on retail prices will increase as inflation increases, because if the retail price rises from US\$ 10 to US\$ 12, even though the rate remains constant at 10%, the tax received will rise from US\$ 1.00 to US\$ 1.20. Because alcoholic beverages with higher levels of ethanol tend to be more expensive (as with spirits and wine versus beer, or even higher- versus lower-ABV beer), ad valorem taxes may be more effective than some specific taxes (such as specific taxes based on beverage volume) in reducing consumption of high-strength alcoholic beverages by targeting higher-priced, higher-ethanol alcoholic beverages (13).

There are also **disadvantages** to ad valorem taxes. A significant weakness is that they impose a **lower tax amount per unit on lower-priced alcoholic beverages** by design, making these more affordable and accessible (14). The large price differentials between alcoholic beverages create incentives for consumers to change their demand from higher-priced to lower-priced alcoholic beverages, as higher-priced ones become less affordable as a result of the tax and price changes (15). Furthermore, the public health impact of ad valorem taxes could be undermined by manufacturers' pricing strategies, as ad valorem taxes give them significant power in determining their own tax liability by creating incentives for them to under-shift tax increases. For instance, manufacturers may lower their prices to reduce their tax burden. However, producers may not want to under-shift taxes on perceived high-quality alcoholic beverages since prices are often a key element in the perception of quality (see Box 3.2 for a definition of the term "quality" in this context).

In addition, an ad valorem tax structure may **incentivize producers to produce lower-quality and thus lower-priced alcoholic beverages**, which may encourage

consumption and drinking initiation – particularly by young people who have lower levels of disposable income. Other tax types, like specific taxes, are more effective at reducing consumption and delaying drinking initiation. One way that countries with an ad valorem tax can potentially prevent down-trading is to impose a minimum excise tax floor. This ensures that at least a certain minimum amount of tax is paid, irrespective of the price level. If the ad valorem tax amount falls below the minimum tax amount, the minimum tax will apply (see section 3.4.2).

When ad valorem taxes are applied to the producer price or CIF value (earlier in the supply chain), they are **prone to possible manipulation** through tactics like transfer pricing and under-invoicing (undervaluation of the true producer price or CIF value). Should countries implement an ad valorem excise tax on alcoholic beverages, it is recommended that they apply taxes to the retail price, which significantly eases the administrative burden.

Box 3.2. Quality

The use of the word “quality” in this manual refers to consumers’ perceptions of quality and their decision to purchase an alcoholic beverage, which they may evaluate based on the packaging, branding, type of alcohol or anything that makes the product more appealing to them. It does not refer in any way to the health impacts of the alcohol. From a public health perspective – and the perspective of this manual – all ethanol causes the same amount of harm, regardless of consumer perceptions of quality. In many cases, this manual uses the term “perceived quality” to reinforce that it is not referring to lower- or higher-quality alcohol in terms of harms.

There are cases where substandard manufacturing may result in tainted alcohol – for example, where a beverage is contaminated with methanol. No legal alcoholic beverage contains methanol. These alcoholic beverages may result in significant harm. Use of the terms “quality” or “perceived quality” in this manual does not refer to these tainted products.

3.3.1.2 Implications for tax revenue and administration

The **impact of ad valorem taxes on tax revenues depends on the trend of prices or tax base values**, as well as consumption responses to price or tax increases. In markets where the value of alcoholic beverages decreases over time, ad valorem taxes are less effective than specific taxes in raising tax revenues (16). Conversely, in markets where the value of alcoholic beverages increases over time, ad valorem taxes could be effective in raising tax revenues and keeping up with inflation.

Ad valorem taxes are also likely to yield high revenue collection from expensive alcoholic beverages – particularly high-end wines and spirits. In this specific circumstance, they can be used as an extra revenue-generating tool as a **valuable part of a mixed tax structure**.

3.3.1.3 Examples of ad valorem taxes

Ad valorem taxes are relatively common. A prominent example is seen in **Viet Nam**, where an ad valorem tax is applied to the ex-factory price (the price of the alcoholic beverages once cleared at the factory) for domestically produced alcoholic beverages and on the CIF value for imported alcoholic beverages. Notably, different rates apply to different beverage types, with a 65% rate on beer and spirits and a 35% rate on wine (17).

Chile also applies an ad valorem tax, but uses a different tax base. In Chile, the ad valorem tax rate has the same base as VAT: the retail price minus costs incurred in the commercialization process, which also excludes VAT. This is a much larger tax base than the ex-factory price or CIF value. The base in Chile is the value added until the last stage of commercialization of the alcoholic beverage (estimated as the difference between the final price and the costs incurred in the commercialization process). Chile also applies different rates for distilled spirits (31.5%), beer, and still and sparkling wine (20.5%) (18). A detailed country example of alcohol taxes in Chile is included in Annex 3.3. Box 3.3 highlights some of the weaknesses of ad valorem tax, including how the tax structure has contributed to a trend of increasing affordability of alcohol over time.

In some countries, ad valorem excise tax rates are applied as part of a mixed excise tax structure. The **Philippines** implements a mixed tax structure for distilled spirits, comprising a specific tax and an ad valorem tax component (19). The structure uses the net retail price as a tax base, which is the retail price excluding the specific excise tax and VAT. The ad valorem rate is 22% of the net retail price (20). Notably, other alcoholic beverages in the Philippines do not have an ad valorem component. **Thailand** also applies ad valorem rates as part of a mixed structure (see section 3.3.4.3), with different rates for various beverage types and tiers. Furthermore, the tax base has also changed over time. A detailed country example of alcohol taxes in Thailand is included in Annex 3.1.

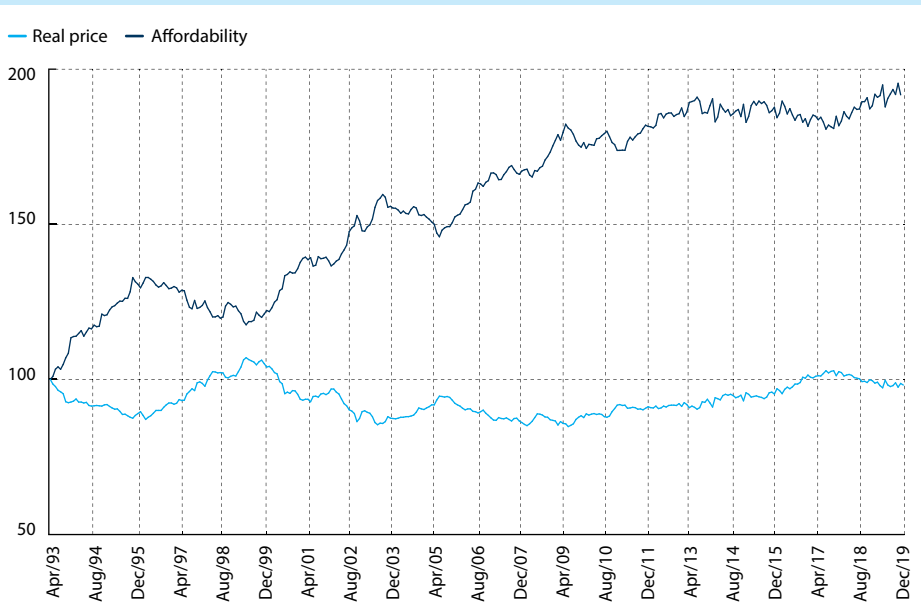
These examples highlight how ad valorem taxes can be applied to different tax bases and at different rates on different alcoholic beverages and – in the cases of the Philippines and Thailand – as part of a mixed structure, sometimes only for a narrow range of alcoholic beverages. Ad valorem rates may also vary within major beverage types based on characteristics like price and alcohol content. This is discussed separately in section 3.3.5 on tiered tax structures.

Box 3.3. Alcohol prices and affordability in Chile

The ad valorem tax used by Chile provides a typical example of how ineffective such taxes can be in increasing the real prices of alcoholic beverages. Fig. 3.1 shows the evolution of indices of real prices and affordability of alcohol in Chile since 1993. Alcohol prices are measured by the alcohol component of the consumer price index and converted into real terms using the whole consumer price index (inflation index) and affordability as the ratio of nominal wages in the formal economy and the alcohol price derived from the consumer price index (21). If the affordability ratio increases, alcohol is getting more affordable over time; if it decreases, alcohol is getting less affordable. Fig. 3.1 shows that real (inflation-adjusted) prices of alcohol have changed little over the last 17 years. By the end of 2020 real prices were similar to those in April 1993 and, for most of the time in between, real alcohol prices were lower than those in April 1993.

There was a steep, almost constant, increase in the affordability of alcohol from April 1993. By the end of 2020, alcohol was twice as affordable as it was in April 1993, implying that the average worker would have to work half the time they had to work in 1993 to buy the same volume of alcohol. Clearly, such an increase in affordability would positively influence demand (and consumption) over time.

Fig. 3.1. Real price and affordability of alcohol in Chile, 1993–2019



Note: April 1993 is the base month and year.

Source: Authors' calculations using data from Instituto Nacional de Estadística (21).

3.3.2 SPECIFIC TAXES BASED ON BEVERAGE VOLUME (VOLUMETRIC/UNITARY TAXES)

3.3.2.1 Impact on affordability and consumption

Like ad valorem taxes, volumetric/unitary specific taxes have **advantages** when it comes to their impact on affordability and consumption of alcoholic beverages. Compared to ad valorem taxes, volumetric/unitary taxes are associated with **lower price variability**. As a result, they lead to fewer incentives for consumers to change demand from high-priced to low-priced alcoholic beverages (22).

Evidence also suggests that specific taxes (both volumetric/unitary and alcohol-content-based taxes) are over-shifted to alcoholic beverage prices, making them an effective policy tool to **raise prices and curb consumption** (11, 14) (see Box 3.1).

Moreover, in an oligopolistic market, volumetric/unitary taxes are more effective than other tax types (such as ad valorem taxes and alcohol-content-based specific taxes) in raising the tax incidence – the percentage of price accounted for by tax – of low-priced and low-strength alcoholic beverages (12). They therefore disincentivize tax avoidance in the form of trading down to such alcoholic beverages. As a result, volumetric/unitary specific taxes may be more effective than other tax types in **preventing or delaying drinking initiation**, particularly by young people, and reducing consumption of low-priced and low-strength alcoholic beverages (23).

Furthermore, volumetric/unitary specific taxes generate incentives for producers to **increase the perceived quality** of alcoholic beverages, unlike ad valorem taxes, where there may be incentives for producers to reduce the perceived quality to reduce their tax liability. This is because under volumetric/unitary taxes the tax amounts are the same no matter the perceived quality. As a result, there is no reduction in tax liability if producers reduce prices or under-shift taxes that generally coincide with reducing perceived quality (24).

There are also **disadvantages** to volumetric/unitary specific taxes. Despite many positive public health impacts, they may be less targeted and **less effective than alcohol-content-based specific taxes in reducing ethanol consumption** overall, and specifically consumption of high-strength alcoholic beverages (25). Moreover, when manufacturers have room to implement more sophisticated pricing strategies, they may pass volumetric/unitary taxes through to lower-priced alcoholic beverages at a lower rate than higher-priced alcoholic beverages, which may undermine the effectiveness of increasing taxes in reducing consumption (11, 12) (see Box 3.1).

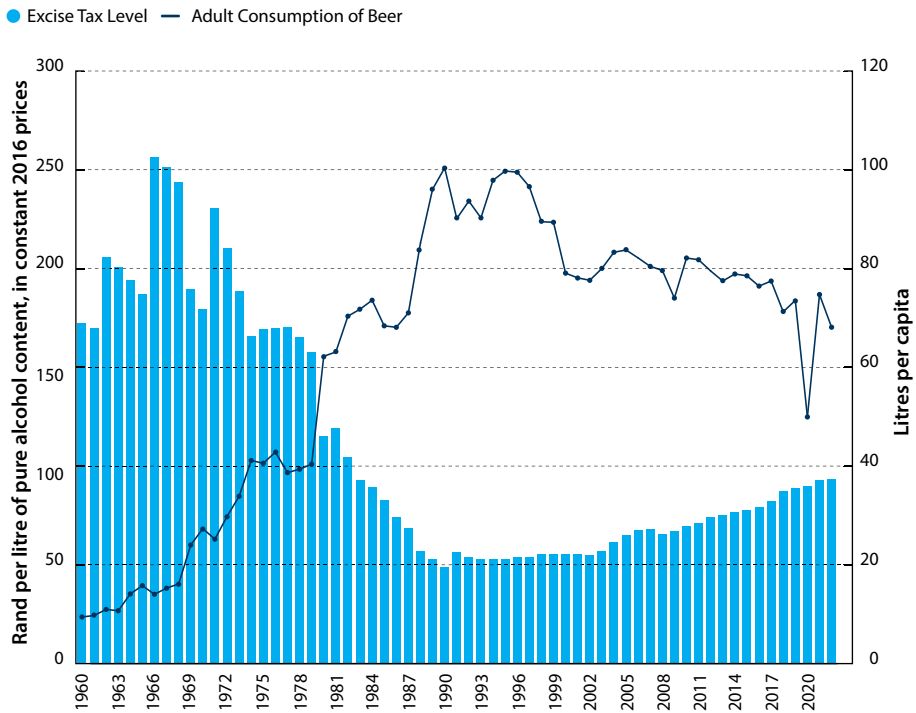
A significant disadvantage of specific taxes in general, including volumetric/unitary taxes, is that unless the rates are adjusted to inflation, their **size and impact decreases over time**. South Africa presents a useful illustration of this (Box 3.4). If tax rates are not raised frequently to keep up with inflation over time, they

will decrease in real terms. South Africa also presents a useful example of how to overcome these inflationary effects by adjusting specific tax rates annually by at least the rate of inflation (Annex 3.2). Australia has automatically indexed alcohol tax rates to inflation bi-annually since 1983, but this indexation does not preclude discretionary increases in tax rates (26). A risk of regular automatic indexation with specific taxes is that industry may stockpile alcoholic beverages prior to the annual tax increase to avoid the higher tax rate. To prevent this, countries should consider implementing anti-forestalling measures (discussed in Chapter 5).

From a tax policy perspective, affordability is a function of alcohol price and individuals' income. Specific taxes that are not raised by more than the income growth rate may also **fail to reduce the affordability of alcoholic beverages over time**. This is of particular interest for low- and middle-income countries that have experienced significant economic growth over recent decades.

Box 3.4. The impact of inflation on excise taxes and alcohol consumption in South Africa

One of the most significant disadvantages of specific taxes is that they can be eroded by inflation if not adjusted regularly. Fig. 3.2 shows the real (inflation-adjusted) excise tax on beer in South Africa since 1960. During the 1960s and the early 1970s inflation gradually eroded the real value of the excise tax of all alcoholic beverages, and the government responded by substantially increasing the nominal excise tax every five years or so. However, between 1977 and 1990, the government rarely adjusted the nominal excise tax, even though the inflation rate averaged 15% over that period. As a result, the real excise tax decreased by 70% within the space of 13 years. This decline corresponded with an increase in per capita adult consumption of beer. Things started changing in the early 1990s when there was a change in the political regime. The real excise tax on beer increased at an average annual rate of 1.7% between 1994 and 2010 (Fig. 3.2).

Fig. 3.2. Beer excise tax and per capita beer consumption in South Africa

Note: Per capita beer consumption is presented in litres of beverage, not litres of absolute alcohol. The conversion to litres of alcohol is performed by assuming an alcoholic content of 5% throughout the period.
Source: National Treasury of the Republic of South Africa (27).

3.3.2.2 Implications for tax revenue and administration

Given that consumption responses to alcohol price or tax increases are inelastic (i.e. the proportional change in consumption is smaller than the proportional change in price), increases in volumetric/unitary taxes will lead to increased tax revenues (28–32). Further, since prices under a volumetric/unitary tax structure are less variable and provide fewer opportunities for tax avoidance through trading down, there is **less leakage in tax revenues** resulting from manufacturers' pricing strategies.

The **cost of volumetric/unitary tax administration is also relatively low**, as it imposes taxes based on the volume size (for example, the container size), which is less subject to product heterogeneity and does not require measuring of alcohol content or value. In countries where resources for tax administration are limited, volumetric/unitary taxes could be a good option to tax alcoholic beverages.

3.3.2.3 Examples of specific taxes based on beverage volume

A prominent example of a country that applies volumetric/unitary taxes is **South Africa**. Wine in South Africa is also taxed with a volumetric/unitary tax, whereas beer and spirits are taxed with an alcohol-content-based specific tax. Like most wine-producing countries, South Africa imposes a relatively low excise duty on wine and wine-related alcoholic beverages (33, 34). It levies volumetric/unitary specific taxes on wine, with a limited number of subcategories of wine. This is designed to reduce the administrative burden, given the relatively smaller heterogeneity in alcohol strengths of wine, particularly within the subcategories. A detailed country example of alcohol taxes in South Africa is included in Annex 3.2.

3.3.3 SPECIFIC TAXES BASED ON ALCOHOL CONTENT

3.3.3.1 Impact on affordability and consumption

As with the previous categories, specific taxes based on alcohol content have **advantages** when it comes to their impact on affordability and consumption of alcoholic beverages. Specific taxes can be based on alcohol content (volume of ethanol or pure alcohol) rather than the volume of the beverage (as with volumetric/unitary specific taxes). Countries may impose such taxes by setting a rate per degree P or per litre of ABV (see Box 3.5 for a description of the measurements of alcohol strength). The advantage of these specific taxes is that they target the harm-inducing chemical – ethanol – directly, thereby curbing total ethanol consumption as well as consumption of high-strength alcoholic beverages (16, 32, 35). Unlike volumetric/unitary taxes, alcohol-content-based specific taxes ensure that alcoholic beverages with more ethanol are taxed at a higher rate. Alcohol-content-based specific taxes are usually over-shifted to prices, which leads to decreases in consumption (36, 37). Therefore, from the public health perspective, alcohol-content-based specific taxes may be the **most effective approach to minimize the health harms of alcohol consumption** (25, 38, 39).

Specific taxes based on alcohol content also benefit public health by generating **positive incentives for consumers to reduce ethanol demand or firms to reduce ethanol supply**. On the demand side, they create an incentive for consumers to change demand from higher- to lower-alcohol beverages, as those with higher alcohol content will have relatively higher tax rates (if the varying taxes are passed directly onto consumers) and become relatively more expensive. On the supply side, alcohol-content-based specific taxes create an incentive for manufacturers to bring new lower-alcohol beverages to market; to reformulate current beverages to provide products with a lower alcohol content; or to redistribute marketing and advertising resources to lower-alcohol beverages to move consumers to those products (a further supply-side effect). The incentive will be created as lower-alcohol beverages become more profitable for producers, all else being constant.

Box 3.5. Common measurements of alcohol strength

In addition to ABV, the following measurements of alcohol strength and measurements that correlate with alcohol strength are used across countries to form part of the alcohol excise tax policy.

- **Alcohol proof**

In the United States, alcohol proof is simply double the ABV percentage expressed in absolute terms. For example, a 40% ABV whisky is described as 80 proof or 80 degrees proof. This conversion rate from ABV to proof is specific to the United States, as the conversion rate differs by country.

- **Alcohol by weight (ABW)**

This is a standard wherein alcohol content is expressed as a percentage of the total mass. ABW is equal to approximately four fifths of the ABV (0.78924 g/mL at 20 °C), but due to miscibility of alcohol and water the conversion factor is not constant.

- **Degrees Gay-Lussac**

This is a French measure, often abbreviated as degrees GL, which measures ABV at a temperature of 15 °C rather than 20 °C. The choice of temperature is defined by the International Organization for Standardization's measure of 15 °C for an International Standard Atmosphere. However, from a practical perspective, there is little meaningful difference between this measure and ABV, so a beverage of 40 degrees GL is 40% ABV.

- **Degrees Plato**

This measure is used to quantify extract concentration, most often in beer. One degree Plato (or 1 degree P) approximates 0.4% ABV; thus, a beer of 12 degrees P is around 5% ABV.

- **Degrees Brix**

The Brix gravity scale is analogous to the Plato gravity scale but measures the concentration of sugar in the pre-fermented liquid. It is most often used for wine. The ABV content is around half the degrees Brix (or degrees Bx), so 23 degrees Bx approximates 13.6% ABV.

There are also **disadvantages** to alcohol-content-based specific taxes. Counterarguments against them include the issue that tax incidences are lower for beverages with lower alcohol content, and as such they may not effectively curb consumption of lower-alcohol beverages or delay initiation among young people. Manufacturers could use pricing strategies to encourage consumption of lower-alcohol beverages by lowering

their prices (7, 8). They might also respond to alcohol-content-based specific taxes by **cross-subsidization**: over-shifting the price increase on higher-priced beverages and under-shifting it on lower-priced beverages, thereby avoiding a drop in consumption of their lower-priced goods as well as overall consumption. One way governments can address this challenge is to introduce a minimum excise tax (see section 3.4.2) to ensure that excise tax per beverage does not fall below a certain level.

As with volumetric/unitary specific taxes, if alcohol-content-based specific tax rates are not raised frequently in line with inflation and economic growth, they may be **subject to tax erosion**, and fail to reduce beverage affordability. Governments need to take the current macroeconomic environment into account when considering the rate of increase in their excise tax. A case in point is **Poland**, which imposes alcohol-based specific taxes on beer and spirits. In October 2021, a revision of the tax bill legislated gradual increases in the tax rates on alcohol by 5% each year from 2022 to 2026 (40). Consequently, the tax on spirits is set to rise from 6903 zloty (US\$ 1647.49) per hectolitre of pure ethanol in 2022 to 8391 zloty (US\$ 2002.63) in 2026.¹⁵ For beers, the tax is set to rise per hectolitre per degree P (hL/degree P) from 9.43 zloty in 2022 to 11.47 zloty in 2026. However, as of July 2022, the year-on-year inflation rate in Poland was already at 15.6% (41), substantially exceeding the legislated excise tax increase rate. This example illustrates that when setting multiyear plans for specific tax increases, the possibility of high future inflation deserves attention. An automatic indexation for inflation (and possibly income growth) should be considered.

3.3.3.2 Implications for tax revenue and administration

As a type of specific tax anchored to alcohol content, alcohol-content-based taxes **generate stable tax revenues** that are free from the influences of price trends or changes and industry manipulation (42, 43).

Alcohol-content-based specific taxes are subject to **product heterogeneity challenges**. More specifically, consumers could change their demand from higher-alcohol to lower-alcohol beverages, which may result in leakage of tax revenues owing to manufacturers' pricing strategies. Furthermore, administration of taxes based on alcohol content requires proper testing and labelling of alcohol content for various beverage types and brands. In countries with limited resources for product testing or labelling and verifying that alcohol labels are consistent with the alcoholic content and tax administration, specific taxes based on alcohol content could be **challenging to implement**.

¹⁵ Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 4.19 zloty (2022).

3.3.3.3 Examples of specific taxes based on alcohol content

South Africa is a prominent example of a country applying an alcohol-content-based specific tax structure. South African tax on beer and spirits was changed from a volumetric/unitary tax to an alcohol-content-based specific tax in 1998. The country levied an excise tax of 115.08 rand (US\$ 7.25) on beer and 230.18 rand (US\$ 14.49) per litre of absolute alcohol on spirits in 2021/2022 (27). This means that, on two popular beers with ABV of 4.0% and 5.5%, the tax per litre at 4.0% alcohol is 4.60 rand (US\$ 0.29) and the tax per litre at 5.5% alcohol is 6.33 rand (US\$ 0.40).¹⁶ The increase in the excise tax level on beer in South Africa after this policy change is observable in Fig. 3.2 above. Research has shown that since the change, alongside increases in the tax rate over time, there has been a significant shift in advertising from higher- to lower-alcohol beers, and a significant reduction in total alcohol consumption from beer. Furthermore, increases in the tax rate over time generated even larger differences in tax amounts payable between low- and high-alcohol beers, and generated larger incentives for producers to shift to lower-alcohol beers (39). A detailed country example of alcohol taxes in South Africa is included in Annex 3.2.

Other examples of countries applying this tax structure include **Ukraine**, which levies a tax of 133.31 hryvnia (US\$ 4.52) per litre of pure alcohol for spirits and ready-to-drink beverages (44).¹⁷ While Ukraine and South Africa only levy specific excise taxes on certain alcoholic beverages, **Algeria** applies the alcohol-content-based specific tax structure for all alcoholic beverages, albeit at different rates. A rate of 50 dinars (US\$ 0.35) per litre of pure alcohol to still and sparkling wine, and 150 dinars (US\$ 1.05) per litre of pure alcohol to spirits (45).¹⁸

Once again, these examples highlight how tax types can be applied differently across beverage types, as in South Africa (which apply volumetric/unitary specific taxes to some alcoholic beverage types and specific taxes based on alcohol content for others), or using the same tax type for different beverage types, as in Algeria. Furthermore, even when the same tax type applies, countries can apply different rates to different alcoholic beverage types. Tax rates may also vary within major beverage types, based on characteristics like price and alcohol content; this is discussed separately in the section on tiered tax structures (section 3.3.5).

16 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 15.882 rand (2022).

17 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 29.5 hryvnia (2022).

18 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 142.42 dinars (2022).

3.3.4 MIXED TAX STRUCTURES

In addition to implementing a uniform type of tax or using a single tax base, countries also have the option to mix specific and ad valorem taxes, or to mix different tax bases. Alternative mixed structures could include specific or ad valorem taxes that have a component based on volume or value and a component based on alcohol content. Countries may also mix tax structures by setting a floor tax (a minimum value of tax) using one base or type, while calculating tax liabilities using a different tax base or type. A further mixed tax option involves imposing two or more types of taxes or bases simultaneously, and letting the higher one determine the tax liability.

3.3.4.1 Impact on affordability and consumption

Mixing tax structures may be an effective way to **balance the advantages and disadvantages** of different tax types and bases in reducing beverage affordability and consumption. For example, a specific tax based on alcohol content is useful for reducing overall alcohol consumption, but it is not as good at increasing the price of cheap alcohol. In fact, such a structure may even promote cheap low-alcoholic beverages that contribute to initiation among young people. A volumetric/unitary tax, on the other hand, is likely to succeed in raising the price of cheap alcohol that contributes to earlier initiation, but it may be less successful in raising prices of high-alcohol-content beverages to reduce their consumption. Therefore, combining these two types of specific taxes may strengthen a structure by simultaneously raising the prices of cheap and/or low-strength alcohol while also reducing total alcohol consumption. Essentially, countries need to evaluate their context, consumption patterns and administrative capabilities to assess the impact of an excise tax structure on attaining their public health and revenue goals. A mixed excise tax structure offers this flexibility.

Nevertheless, mixing tax types and bases – compared with implementing a uniform tax structure – provides manufacturers with more opportunities to avoid taxes by **manipulating the characteristics and prices** of their products.

3.3.4.2 Implications for tax revenue and administration

It is worth noting that the practice of mixing tax structures may both **complicate the administration of alcoholic beverage taxes** and exacerbate the challenges faced by authorities in taxing different alcoholic beverages. Tax authorities will need to determine which types of tax and which tax bases they would like to rely on most, and why. The impacts of mixed structures on tax revenues and administration will depend on how the tax types and bases are mixed, which will subsequently determine the overall revenue and administration costs. Mixed tax structures are complicated by their nature because taxes are calculated based on different parameters. The tax

authorities are likely to bear the burden of interpreting tax laws and calculating tax liability. Mixed taxes may prove to be particularly challenging in low-capacity or poorly resourced settings. It may be necessary for tax authorities to conduct a cost–effectiveness evaluation and exercise caution when deciding to mix tax types or bases.

3.3.4.3 Examples of mixed tax structures

The **European Union (EU)** uses a common legal framework to tax alcoholic beverages, in which countries mix ad valorem and specific taxes (38). The earlier example of the ad valorem tax on spirits in the **Philippines** in section 3.3.1.3 is also an example of a mixed structure. In addition to the ad valorem component, an alcohol-content-based specific tax of 52 pesos (US\$ 1.00) per proof litre is also applied (rising to 59 pesos per proof litre in 2023) (19, 20, 46).¹⁹

Thailand applies a complicated mixed excise tax structure, employing both an alcohol-content-based specific tax and an ad valorem tax, with rates varying by beverage type. For example, beer has an ad valorem tax of 22% of the retail price plus a specific tax with a rate of 430 baht (US\$ 12.94) per litre of pure alcohol, while clear spirits (called “white spirits” in Thailand) have an ad valorem tax of 2% of the retail price as well as an additional specific tax of 155 baht (US\$ 4.66) per litre of pure alcohol.²⁰ Previous configurations of the mixed tax structure in Thailand include mixing ad valorem taxes with both alcohol-content-based specific taxes and volumetric/unitary-based specific taxes. A detailed country example of alcohol taxes in Thailand, including its history, tax structures and evolution, is included in Annex 3.1.

These examples highlight how mixed structures can allow governments to exploit the features of multiple tax structures to take into account the large heterogeneity that exists between and within alcoholic beverage types. However, they also result in greater complexity and more tax administration requirements. Governments need to understand the trade-offs between the more targeted tax approach that mixed structures facilitate and the costs of implementing and administering those structures, including potential unintended consequences of tax avoidance and evasion (see section 5.2.3 of Chapter 5 and section 7.3 of Chapter 7).

19 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 51.81 pesos (2022).

20 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 33.24 baht (2022).

3.3.5 TIERED TAX STRUCTURES

The ad valorem and specific taxes described above are examples of uniform taxes, where the same tax rate is applied to all alcoholic beverages within a category or beverage type. However, taxes can be designed so that different rates apply to different beverages within a category or beverage type. These tiered rates vary based on a certain characteristic or a combination of several characteristics, including alcohol strength, value and often political economy reasons, among others. For instance, Belarus has a tiered tax structure for beer based on alcohol strength. All beers with an ABV of 0.5–7% are charged at a certain specific excise tax rate, while a higher rate is applied to beers with an ABV greater than 7% (the higher tier). The Belarus country example is discussed in more detail in section 3.3.5.3.

Tiered tax structures may also exist for reasons of political economy, such as agriculture, trade and promoting local economic development. An example is when countries choose to impose lower tax rates on alcoholic beverages made by small brewers and distillers to counterbalance their higher operating costs compared to large, often multinational, companies. However, such structures generate several complications and may even introduce distortions into the market – for example, by generating incentives for producers to limit their growth to maintain the advantage of lower tax rates.

It is possible for a country to have both a mixed and a tiered tax structure, as is the case in Thailand (discussed in detail in Annex 3.1). Thailand applies both alcohol-content-based specific and ad valorem taxes to alcoholic beverages, but also implements differing tax rates within alcoholic beverage types, based on retail price and alcoholic strength (see section 3.3.4.3).

It is also important to distinguish between tax tiers and tax thresholds. A tax threshold is a type of tax tier. When a tax tier is created below which a zero-tax rate is applied, this is referred to as a tax threshold. No alcohol excise tax is imposed on an alcoholic beverage when it falls below this threshold. For instance, in the case of Belarus, any beer with less than 0.5% ABV does not have an excise tax imposed on it, so 0.5% ABV serves as a de facto tax threshold. Generally, alcohol tax thresholds are set as the minimum level of alcohol content at which manufacturers and retailers are liable to pay excise tax. The tax threshold creates a two-tiered tax structure: a zero-rated tier (where alcoholic beverages are not subject to excise tax) and a more-than-zero-rated tier. Tax thresholds are applied to ease tax administration and/or to generate incentives for manufacturers to lower alcohol content. Therefore, thresholds are effectively a type of tier, even if no other tiers are applied.

3.3.5.1 Impact on affordability and consumption

Tiered tax rates can only be more effective than uniform rates in reducing alcohol-related harms when the **tiered rates are designed to increase with higher alcohol content**. These taxes could work similarly to uniform specific taxes based on alcohol content by targeting prices of cheap, high-alcohol-content beverages and, therefore, having the relatively largest impact on demand for those products. Moreover, as with specific taxes based on alcohol content, when beverages with higher alcohol content are placed in tiers with higher tax rates, it creates strong incentives for alcohol manufacturers to lower alcohol content in their beverages and move consumers towards those lower-alcohol beverages.

Tiered tax structures have several **disadvantages** when it comes to their impact on affordability and consumption of alcoholic beverages, however. Experience of and literature on tobacco tax suggests that – compared to uniform rates – tiered tax rates are associated with **lower average prices, greater tax avoidance opportunities and higher consumption** (15, 22, 47, 48). Uniform rates are more appropriate for reducing alcohol consumption because they reduce incentives for consumers to switch to cheaper brands in lower tax tiers. Taxing all alcoholic beverages within the same category or beverage type at the same rate also reduces incentives for alcohol producers to manipulate their prices and other marketing behaviour to avoid part of their tax liabilities (49). Therefore, uniform taxes are generally more effective at reducing alcohol-related harms than tiered taxes.

3.3.5.2 Implications for tax revenue and administration

The revenue impact of tiered tax structures depends on how tiered rates are designed, and on whether they are more effective at reducing consumption than a uniform rate. Nonetheless, because tiered rates often provide more tax avoidance opportunities than a uniform rate, there are likely to be more **leakages in tax revenue** as a result.

The **tax administration costs are higher** for a tiered tax structure because more tax-influencing factors are involved in calculations than in a uniform tax structure (49). Tiered tax rates require strong tax administration to implement and enforce them. As with other complicated tax structures, tiered rates may be challenging for low-capacity or poorly resourced tax administration settings.

3.3.5.3 Examples of tiered tax structures

Mongolia is an example of a country with a tiered excise tax structure where the tiers are based on alcohol content, but the tax is applied based on beverage volume (volumetric/unitary specific taxes). Since 2018, vodka and some other spirits are taxed at a rate of 3480 tugrik (US\$ 1.37) per litre for alcohol with an ABV up to 25%, 6960 tugrik (US\$ 2.73) per litre for alcohol with an ABV between 25% and 40%,

and 15 660 tugrik (US\$ 6.15) per litre for alcohol with an ABV greater than 40% (50).²¹ WHO analyses have shown that 99.9% of alcohol sales in Mongolia fall into the two lowest-ABV categories. This example demonstrates the need for tiers based on alcohol strength to be designed intentionally: given that 40% ABV is a common baseline for vodka, it is very easy for manufacturers to dilute their vodka to avoid the higher tax rate, with minimal effort or change to the alcohol contents. Such a tier may be more effective if the 40% ABV tier were lowered, as manufacturers would have less incentive to manipulate their products to fall into the lower tax bracket.

Belarus has a similar system, with specific taxes based on alcohol content for beer. Rates are 0.45 rubles (US\$ 0.18) per litre for beer with an ABV of 0.5–7.0% and 0.96 rubles (US\$ 0.38) per litre for beer with an ABV greater than 7%. Beer with an ABV of less than 0.5% attracts no excise tax, and thus serves as a de facto tax threshold. Similarly, a tax of 22.06 rubles (US\$ 8.67) per litre is applied to spirits with an ABV greater than 7%, and no further tiers apply (51).²²

In **Denmark in 2021**, beer is taxed at a rate of 48.74 kroner (US\$ 7.27) per litre of pure alcohol, but only for beverages with an ABV greater than 2.8% (technically, beverages less than or equal to an ABV of 2.8% are taxed at a reduced rate of 0 kroner per litre of pure alcohol) (52). A threshold effectively applies at 2.8% ABV. This generates incentives for producers to produce lower-alcohol beers, since their tax liability becomes zero if the alcohol content is less than or equal to 2.8% ABV. The higher the rate of tax in this structure, the larger the incentive for firms. Spirits are taxed at a rate of 150 kroner (US\$ 22.39) per litre of pure alcohol, but a threshold is applied at 1.2% ABV.²³ The same 1.2% ABV threshold is applied to wine and other fermented beverages. Given the much higher ABV of spirits and other fermented beverages compared to beer, and the significantly lower threshold, this structure is likely to be used for administrative ease rather than to generate supply-side incentives, as with beer.

The **United Kingdom** is an example of a country with an excise tax structure with tiers based on alcohol content for beer (53). Prior to June 2023, beer with an ABV between 1.2% and 2.8% is taxed at 8.42 pence (US\$ 0.11) per litre for each percentage of alcohol, beer with an ABV between 2.8% and 7.5% is taxed at 19.08 pence (US\$ 0.25) per litre for each percentage of alcohol, and beer with an ABV

21 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 2545.29 tugrik (2018).

22 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 2.544 rubles (2022).

23 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 6.7 kroner (2022).

greater than 7.5% is taxed at 24.77 pence (US\$ 0.33) per litre for each percentage of alcohol. The means that a pint beer with an ABV of 5% would be taxed at $19.08 \times 5.0 = 95.4$ pence (US\$ 1.25) per litre of beer.²⁴ This structure also creates a de facto tax threshold, as beer with an ABV lower than 1.2% attracts no excise. A similar structure with different rates and tiers is also employed on cider and wine in the United Kingdom (54).

Thailand is an example of a country where tiers generate significantly more complexity within the tax structure. See the country example of alcohol taxes in Thailand in Annex 3.1 for a more detailed explanation of the wide range of tiers implemented and how these have changed over time. One example from the country example is the tiers on wine, which are structured by retail price. For example, an ad valorem tax (calculated on the retail price before VAT) of 10% is applied to wine and sparkling wine with a recommended retail sale price of more than 1000 baht, whereas no ad valorem tax is applied to the same beverages with a recommended retail sale price of less than 1000 baht (US\$ 30.84). An alcohol-content-based specific tax of 1500 baht (US\$ 45.13) per litre of pure alcohol is still applied to both categories, however.²⁵

In **Canada** starting in 2017 for spirits and in 2018 for beer and wine, as in the United States, excise taxes on alcohol are levied at a provincial (or state) level. In Ontario, Canada (Table 3.1), tiers are applied to a range of product characteristics within beverage types, including origin (made in Ontario or not), type of producer (microbrewers or brew pubs), size of beverage and type of outlet. The tax rate per standard drink varies from Can\$ 2.82 (US\$ 2.21) for a beer bought from a brew pub to Can\$ 21.87 (US\$ 17.13) for spirits bought from anywhere, meaning that the highest tax rate is 7.8 times greater than the lowest.²⁶ Clearly, many of these tiers incorporate several political economy goals by applying lower tax rates to alcoholic beverages produced by smaller manufacturers and locally produced wines.

24 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 0.762 pounds sterling (2022).

25 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 33.24 baht (2022).

26 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = Can\$1.277 (2022).

Table 3.1. Tiered alcohol tax rates under the alcohol excise tax structure (starting in 2017 for spirits and in 2018 for beer and wine) in Ontario, Canada

TYPE OF ALCOHOL	BEVERAGE CHARACTERISTICS	TAX IMPOSED ON ALCOHOLIC BEVERAGE				TOTAL TAX PER STANDARD DRINK (Can\$ per standard drink)
		Basic tax (ad valorem/specific)	Volumetric/unitary tax	Environmental tax		
		(Can\$ per litre of beverage or % of retail price)	(Can\$ per litre of beverage)	(Can\$ per (non-refillable) container)		
Beer	Made by Ontario beer manufacturers	Draft beer	Can\$ 0.7245	0.176	0.0893	7.62
		Non-draft beer	Can\$ 0.8974			11.20
	Made by Ontario microbrewers	Draft beer	Can\$ 0.3596	0.0	0.0	4.54
		Non-draft beer	Can\$ 0.3975			6.97
	Made by and sold at Ontario brew pubs	Draft beer	Can\$ 0.3341	0.0	0.0	2.82
Wine	Ontario wine	Purchased from a winery retail store	6.1%	0.29 for wine; 0.28 for wine cooler	0.0893	4.82
		Purchased from a wine boutique	9.6%			6.99
	Non-Ontario wine	Purchased from a winery retail store	19.1%	0.0	0.0	12.90
		Purchased from a wine boutique	22.6%			15.07
Spirits	61.5%	0.38 for spirits; 0.28 for spirits cooler	0.0893	0.0	0.0	18.92

Note: The ad valorem tax base is the retail price exclusive of all tax (including volume tax, environmental tax, federal/provincial sales taxes and a container deposit).

Sources: Ontario Ministry of Finance (55, 56).

These examples show the significant variation in tiers, including thresholds, around the world. There is almost no limit to how countries can apply tiers, including using specific and ad valorem taxes as part of them. Governments can use well-designed tiers and thresholds to generate significant supply-side incentives for firms. Tiers are a powerful tool in a country's arsenal to sharpen the effectiveness of tax policy; however, they result in much greater complexity for tax administration.

Nevertheless, poorly designed thresholds or tiers may bring about no benefit, and may even result in unintended consequences. Once again, governments need to be aware of the trade-offs between a more targeted approach that thresholds or tiers facilitate and the costs of implementing and administering these structures, including potential unintended consequences of tax avoidance and evasion. Furthermore,

many of the benefits of tiers can also be generated using other tax structures – for example, generating supply-side incentives for lower alcohol consumption from alcohol-content-based specific taxes. The difference between these approaches is that under structures with tiers and thresholds, the government must make explicit choices, whereas under an alcohol-content-based specific tax structure, the government sets a rate that generates incentives for firms in a linear manner.

3.3.6 CHOOSING A TAX TYPE AND BASE

A country may consider several factors in choosing its alcohol tax structure – including the type of tax, the base and other characteristics, such as whether to implement uniform or tiered rates and whether to mix tax types and bases. Moreover, countries may even combine multiple structures to exploit the attributes of multiple structures. Not only the policy goals – specifically the public health and fiscal goals – but also the capacity and resources of the tax authorities to implement, administer and ultimately collect the tax efficiently and effectively must be considered.

The design of tax policy can be particularly powerful in generating incentives for consumers and firms to alter their behaviour, for example, by using alcohol content as a tax base or by applying well-designed tiers. However, these structures create significant administrative requirements, including labelling, content verification and administrative systems. Furthermore, poorly designed structures may fail to generate the desired incentives, or may even be counterproductive while simultaneously creating a greater administrative burden. Table 3.2 outlines a review of the attributes of the various structures.

Table 3.2. Characteristics of various tax structures

TAX STRUCTURE	EASE OF ADMINISTRATION	IMPACT ON PRICE	IMPACT ON OVERALL ALCOHOL CONSUMPTION	IMPACT ON REVENUE	OTHER ATTRIBUTES	SUMMARY
Ad valorem tax	More difficult to administer than specific taxes, since ascertaining value – particularly early in the supply chain – is more difficult than ascertaining volume	Increases variation in prices, since ad valorem taxes based on the retail price are more effective in raising prices than taxes based on other prices; and tax burdens on low-value, perceived low-quality beverages are lower than the burdens under specific taxes	Not an effective tool since it generates opportunities for consumers to shift their demand to cheaper alcoholic beverages	Effective in raising tax revenues from high-value, perceived high-quality alcoholic beverages; a poor revenue-raising tool if the base is a price other than the retail price	Maintains real value in high-inflation economies	Although effective at raising revenue on high-value alcoholic beverages, unlikely to be effective in reducing alcohol-related harm without being combined into a mixed structure
Specific tax (volume-based)	Easiest to administer	Most effective in raising prices of perceived low-quality and low-value beverages; frequent increases may be needed to sufficiently increase prices and reduce affordability	Able to delay initiation among young people and reduce concentration of drinking, since tax burdens on low-value, perceived low-quality beverages may be higher; fewer opportunities for pricing strategies to reduce policy effectiveness	Most effective in producing predictable tax revenues	Subject to erosion from inflation and per capita income growth	Most effective in raising prices of the cheapest beverages; easiest to implement, and may be particularly useful in countries with under-resourced tax administration capacity

TAX STRUCTURE	EASE OF ADMINISTRATION	IMPACT ON PRICE	IMPACT ON OVERALL ALCOHOL CONSUMPTION	IMPACT ON REVENUE	OTHER ATTRIBUTES	SUMMARY
Specific tax (alcohol-content-based)	Relatively easy to administer, but requires resources to assess or label alcohol content	Effective in raising prices of all alcoholic beverages; frequent increases may be needed to increase prices and reduce affordability sufficiently	Likely to reduce overall alcohol consumption by targeting prices of cheap, high-alcohol-content beverages and by generating incentives for producing lower-alcohol beverages and moving consumers towards those products; more effective in reducing initiation among young people when volume-based minimum excise tax applies	Effective in raising tax revenue, although if the effect on lowering total alcohol content is successful, will deliver lower revenue than volume-based specific tax	Subject to erosion from inflation and per capita income growth	Most effective in reducing total alcohol consumption and most effective in reducing harm to health
Uniform rates	Easier to administer than tiered rates	Effective in raising prices uniformly	Provide fewer opportunities for pricing strategies to undermine the effectiveness of the tax	Depends on underlying tax structures	Depends on underlying tax structures	Easiest to administer

TAX STRUCTURE	EASE OF ADMINISTRATION	IMPACT ON PRICE	IMPACT ON OVERALL ALCOHOL CONSUMPTION	IMPACT ON REVENUE	OTHER ATTRIBUTES	SUMMARY
Mixed tax structures	Requires the administrative capacity of both specific and ad valorem structures	Effective in raising prices; higher reliance on specific components rather than ad valorem components should be used to mobilize the potential impact of specific excise taxes on public health outcomes	Effective in reducing alcohol-related harms; effectiveness increases when a minimum tax is required; the effects of tax might be undermined when consumers move to cheaper alcoholic beverages	Can maximize revenue potential by exploiting the efficiency of specific taxes but also the revenue-raising potential of high-value, perceived high-quality alcoholic beverages through the ad valorem component	Partly maintains real value in high-inflation economies	Mixed tax structures with high specific components most successful at exploiting the positive health attributes of specific taxes while also maximizing revenue yield
Tiered rates	Difficult to administer; require sophisticated design and resources to ensure effective implementation	Effective in raising prices within tiers; could be used to raise the prices of higher-alcohol beverages significantly	When beverages with higher alcohol content are placed in tiers with higher tax rates, including exempting beverages below certain alcohol content thresholds from the tax, will effectively reduce alcohol-related harms by targeting prices of cheap, higher-alcohol beverages and generating incentives for producing lower-alcohol beverages and moving consumers towards those products	Effective in raising tax revenue, although if the effect on lowering total alcohol content is successful, will deliver lower revenue than uniform rates	Depends on underlying tax structures	If well designed, can be particularly effective in reducing harm to health, although likely to be preferred in well-resourced and high-capacity countries' tax administration settings

3.4 HETEROGENEITY OF ALCOHOLIC BEVERAGES: CONSIDERATIONS FOR TAX POLICY DESIGN

Key messages

- A wide variety of alcoholic beverages is available (known as product heterogeneity), which adds to the complexity of alcohol tax policy design.
- The heterogeneity means that there are differences in the price elasticities across alcoholic beverage types. For instance, empirical evidence has shown that the price elasticity of demand for beer is more inelastic than that for wine or spirits. Taxes that increase the price of alcoholic beverages will result in different reductions in consumption for different alcoholic beverage types.
 - The first issue this introduces is that policy-makers may need to introduce larger tax increases on inelastic beverages **to reduce consumption and produce the desired public health impact.**
 - The second is the impact of heterogeneity on government revenue. **Policy-makers** may impose higher taxes on more inelastic alcoholic beverages **to increase revenue.**
 - The third is that policy-makers need to consider that consumers may decrease their consumption of one alcoholic beverage type after a tax increase while simultaneously increasing their consumption of another alcoholic beverage type.
- As a result of these complex issues, it is important to define the policy goals when designing tax structures.
- In addition, the heterogeneity of alcoholic beverages creates challenges for tax administrators.
- **The key message for policy and implementation** is that defining alcoholic beverage types clearly is essential to ensuring that all alcoholic beverages are taxed appropriately, according to the harm they cause and the policy goals of the government.

3.4.1 HETEROGENEITY OF ALCOHOLIC BEVERAGES

The variety of alcoholic beverages is extensive, with different degrees of perceived quality. This perception differs within and across alcoholic beverage types. Along with differences in production costs, tax structures and rates, the large product heterogeneity results in significant variation in prices, which generates opportunities for consumers to change their consumption patterns to cheaper brands or change consumption between beverage types in response to tax and price increases.

Designers of an effective tax policy may face a range of complexities, given the heterogeneity of alcoholic beverages. Differences in price elasticities across beverage

types mean that taxes that increase prices by similar amounts will result in different reductions in consumption for different products. To the extent that beverages with more inelastic demand are more widely consumed, this may mean that increases in taxes on these beverages need to be larger to produce the desired public health impact. The evidence highlighted in Chapter 2 (section 2.5.2) shows that beer is generally more inelastic than wine and spirits. These results may vary within each country. A good understanding of varying alcoholic beverage elasticities may be useful in designing tax policies.

Differing elasticities of demand also have implications for revenue generation. If increasing revenue is an important policy goal, then governments may impose higher taxes on alcoholic beverages that have more inelastic (or less elastic) demand. As beer is often found to be more inelastic than wine and spirits, raising taxes on beer is likely to lead to greater tax revenue increases than raising taxes on wine or spirits, bearing in mind that the ethanol content in wine and spirits is on average higher than that in beer. Larger tax increases on wine and spirits may encourage consumers to substitute these alcoholic beverages with beer, effectively resulting in lower tax revenue increases. However, coordinating tax increases across alcoholic beverages is likely to minimize substitution and result in higher tax revenue increases.

Various factors contribute to the elasticity of an alcoholic beverage type. Studies have found that beverage popularity and market share are important determinants. For instance, alcoholic beverages that are more popular and have a larger market share tend to be more inelastic (less responsive to price changes) than those with a smaller market share (24, 57).

The differences between tax structures and rates for different alcoholic beverage types will also be affected by market players. Larger market players will have more power to influence tax policies, while governments may want to protect certain branches of industry, resulting in differential tax rates for large versus small manufacturers or local versus imported alcoholic beverages.

3.4.2 IMPLICATIONS FOR DESIGNING TAXES TO PROMOTE PUBLIC HEALTH

Countries differ in the way they design their tax policy goals. Contextual factors will determine to what extent alcoholic beverage heterogeneity will affect their ability to reach these **policy goals**. For example, the goal may be to decrease total alcohol consumption, to reduce prevalence of drinking among specific groups (such as heavy drinkers), to reduce the concentration of drinking (for example, binge drinking) or to delay initiation of drinking. Some of these goals are compatible with certain tax structures, but not with all of them.

If the policy goal is **curbing alcohol consumption**, from a public health perspective, several options could be considered to curb alcohol consumption. As indicated

in Table 3.2, ad valorem taxes are not the preferred option. They will exacerbate the absolute price differences within and across beverage types, creating opportunities for drinkers to shift their demand to cheaper brands or beverages in response to tax increases, while also incentivizing producers to market their lower-priced/lower-perceived-quality beverages more aggressively, reducing the public health effects of higher taxes.

Broadly taxing all alcohol equally through an alcohol-content-based specific tax that does not distinguish between beverage types (using the same alcohol-content-based specific tax for all types) would tax alcoholic beverages relative to their harms and would be likely to reduce total alcohol consumption in the short term. Taxing alcoholic beverages based on alcohol content strength mitigates substitution effects from higher-alcohol to lower-alcohol beverages, since the taxes imposed are proportional to the alcohol content. The downside is that it may result in lower prices for lower-alcohol beverages, making the tax less effective in delaying initiation of alcohol use.

If the policy goal is **delaying drinking initiation among young people**, a volumetric/unitary specific tax may be more effective if reducing drinking initiation among young people is the primary public health goal because it will increase taxes and prices on cheaper alcoholic beverages more than other tax types. Furthermore, this approach may also necessitate higher tax rates on beverage types that are more popular among young people (such as alcopops or coolers). However, volumetric/unitary specific taxes will result in relatively lower taxes per unit of ethanol for higher-alcohol beverages, motivating some consumers to choose these beverages and encouraging producers to promote them, undermining the public health impact of the tax.

If the policy goal is to **reduce the incentive for consumers to change their demand to other alcoholic beverages**, one important overarching public health goal is that tax policies should seek to decrease incentives for consumers to increase their demand of other alcoholic beverages of similar alcohol strength in response to a tax/price increase. This can undermine public health by shifting the harm from one alcoholic beverage type to another. Ideally, tax policies should aim to decrease total alcohol consumption and increase the prices of cheap alcoholic beverages simultaneously. This would not only reduce harm from alcohol but also reduce access for heavy drinkers and binge drinkers, and delay alcohol drinking initiation.

However, given that different tax structures may produce different outcomes, designing tax structures is inherently challenging. For the purposes of reducing incentives for substitution between alcoholic beverages with similar alcohol strength, taxes should be based on the alcohol content of beverages (using alcohol-content-based specific taxes or well-designed tiered tax structures with alcohol-content-based

tiers or thresholds), since this would have a higher impact on relatively cheaper, stronger alcoholic beverages. Furthermore, if substitution were to occur it would probably be to beverages with lower alcohol content. Taxes based on the alcohol content of beverages limit so-called down-trading to cheaper beverages with the same strength.

Another option is to apply volumetric/unitary specific taxes to beer and alcoholic beverage types that have a relatively lower alcohol content, while applying alcohol-content-based specific taxes to wine and spirits that have a relatively higher alcohol content. This type of tax design would impose a higher rate on wine and spirits to reflect their harms. Further, beer would be taxed at a higher rate than it would under alcohol-content-based specific or ad valorem tax structures, where the tax rates would be lower due to beer's lower alcohol content. This design may benefit public health outcomes, particularly when consumers do not shift from cheap beers to more expensive wines or liquors when tax increases.

Another tax tool that could limit the increase in demand for cheaper beverages with similar strength is a minimum tax or tax floor (Box 3.6). If implemented on an alcohol-content basis, this has the potential to target heavy drinkers.

Box 3.6. Minimum excise taxes on alcoholic beverages

A minimum excise tax (a tax floor) is useful in the context of an ad valorem structure, a mixed structure and an alcohol-content-based specific structure. A minimum excise tax ensures that the cheapest alcoholic beverages retain a certain level of tax, while also limiting industry's ability to manipulate the price of these alcoholic beverages downwards. The empirical question remains whether a tax floor would push the price of these alcoholic beverages upwards sufficiently to deter consumption among heavy drinkers. The minimum excise tax floor could be imposed on the alcohol content or volume. Moreover, a volume-based minimum specific tax can supplement an alcohol-content-based tax. For example, Latvia imposes an alcohol-content-based specific tax of €8.2 (US\$ 8.7)²⁷ per hectolitre per degree alcohol on beers with a minimum volume-based tax floor of €15.2 (US\$ 6.2) per hectolitre (58).

Unfortunately, the evidence base measuring the impact of minimum alcohol excise taxes on consumption patterns is limited. However, limited evidence from the field of tobacco control shows an upwards shift in retail prices when a tax floor is implemented. In the EU, most Member States levy minimum excise taxes on cigarettes,

²⁷ Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = €0.94 (2022).

along with specific and ad valorem excise taxes. The minimum excise tax serves as a tax floor on a per-quantity basis. It has been demonstrated that the rates of the minimum excise duties are highly correlated with the weighted average cigarette prices in those countries that apply minimum taxes. This indicates that the average cigarette price is largely driven by the minimum excise tax (59).

Policies complementary to tax that could help limit down-trading to cheaper alcohols with the same strength are those pertaining directly to alcohol pricing. Imposing minimum prices based on alcohol content would have the effect of raising prices for stronger beverages. Minimum prices would also prevent firms from managing pass-through rates across their beverage portfolio to maximize their revenues by, for example, over-shifting taxes for relatively more expensive beverages and under-shifting taxes for relatively cheaper beverages (incentivizing substitution of the cheaper beverages). The major drawback of minimum pricing, however, is that these alcohol pricing policies increase industry revenue as opposed to government revenue. Minimum prices are considered in more detail in Chapter 4.

Countries should continuously monitor the market, paying particular attention to the effects of product heterogeneity, tax structures and tax changes on the market, including substitution between products. This will inform policy choices, allowing governments to make rapid adjustments to ensure that policy goals are achieved.

3.4.3 IMPLICATIONS FOR ALCOHOL TAX ADMINISTRATION

Alcohol tax administration is covered in Chapter 5, which provides detailed advice on how to design and implement effective alcohol tax administration systems. However, this section has highlighted the challenges that alcohol heterogeneity creates in designing tax policy, and it is appropriate also to consider the implications for tax administration briefly here, since these challenges will often vary based on the tax structures that are implemented.

Developing clear definitions for what constitutes an alcoholic beverage poses an initial challenge, given that some non-alcoholic beverages may contain non-trivial amounts of alcohol, and given the availability of very-low-ABV beverages (such as so-called non-alcoholic beers with an ABV around 0.5%). Similarly, to the extent that different taxes are applied to different types of alcoholic beverages, defining these types clearly is essential to ensuring that all products are taxed appropriately. For example, in the United States, alcoholic beverages were defined by several states in ways that did not include many alcopops when these began to emerge, requiring states to broaden their definitions or to create a new type of alcoholic beverage to tax them.

Furthermore, as tax structures that vary by alcoholic beverage type become more complicated, administrative costs and incentives for tax avoidance will increase, and revenue may be lost due to substitution between different alcoholic beverage types. Empirical evidence shows that a simple tax structure for all alcoholic beverage types will reduce the complexities of tax administration, reduce tax avoidance and increase tax revenue (60).

Tax structures that vary by alcoholic beverage type may also assist in reducing variation in beverage prices that result from differing costs of production, thereby limiting or reducing substitution between beverage types. However, this potential should be considered alongside the increased administrative difficulty and costs of applying different taxes to different alcohol types. Alternatively, alcohol-content-based specific taxes may reduce the complexity of the structure by requiring fewer categories or other features like tiers, but alcohol-content-based specific taxes require different administrative capabilities. Instead of focusing on applying the appropriate definitions, tax administrators would need to ensure that the appropriate tax is being applied and collected based on alcohol content, which itself would require measurement and verification of alcohol content. This highlights the potential trade-off between the better outcomes from more complex policies and the increased administrative difficulty and costs required to implement them.

3.4.4 POLITICAL ECONOMY CONSIDERATIONS

Tax structures that vary by beverage types are often justified by objectives other than public health outcomes such as culture, agriculture and trade. For example, many wine-producing countries exempt wine (particularly still wine) from excise taxes, or impose a low tax rate on wine products to support the industry and trade. Examples of this approach include some countries in the EU, **Australia** and **South Africa**. In **Japan**, domestic-produced sake and fruit wines are taxed at a lower rate than beer. Another more recent example involves applying differential tax rates based on production volumes (such as applying lower rates to breweries or distilleries that produce relatively small quantities in a craft or artisanal context). Examples of these approaches are highlighted in section 3.3.5. The small scale of these producers results in much higher cost structures than large-scale industrial producers, and thus lower taxes are seen as compensating for this. These practices illustrate the needs to balance the different objectives of tax policies and to understand the costs and benefits of such policies that incorporate various economic, health and cultural considerations.

When designing an appropriate alcohol tax policy, taking account of the heterogeneity of alcoholic beverages is essential, in combination with clearly defining the goal of these taxes and understanding the capacity of alcohol tax administration.

3.5 CONCLUSION

The evidence demonstrating a significant, negative relationship between own-price elasticity and demand of alcoholic beverages makes clear the fundamental role of tax and pricing policies in this realm. Increasing alcohol prices by increasing taxes is likely to decrease alcohol consumption and, in turn, decrease the prevalence of negative outcomes associated with alcohol consumption such as traffic accidents, violence, unwanted pregnancies and sexually transmitted diseases. Higher prices may decrease the prevalence of binge drinking and heavy drinking, and may effectively delay initiation of drinking among young people, changing their future pattern of consumption or even preventing it.

The evidence presented in this chapter highlights the complexities inherent to designing an effective alcohol tax policy, given the heterogeneity of alcoholic beverages and the different tax structures available to policy-makers. Although it focuses on introducing tax structure designs and options for alcoholic beverages, many factors beyond tax policies will have an impact on how effective taxes are in curbing alcohol-related harms and generating tax revenues. Design and implementation of effective tax structures are critical to ensuring that public health and revenue-generation objectives are achieved.

From a normative perspective, governments could tax alcoholic beverages that cause the most harm – or those that are especially preferred by adolescents – with higher rates of tax to reduce harm. However, such a policy requires a strong empirical understanding of which alcoholic beverages drive harm and which are most likely to result in future harm. A corollary, for where such empirical data are unknown or not well understood, is that governments could tax all alcoholic beverages with the same tax structure and rates. Furthermore, while governments should be led by public health goals and concerns, there may be other important factors to consider, including tax administration and implementation challenges, as well as broader economic concerns – such as employment and trade – that affect these decisions.

Although the evidence on substitution across beverage types is relatively weak, there is evidence of substitution within beverage types. Given the potential for substitution, and considering the dramatic heterogeneity of alcoholic beverages, this chapter has highlighted various innovative options to show how governments may adopt different tax structures for different beverage types to achieve their policy objectives, all while ensuring that tax policies reduce incentives for consumers to increase their demand for other alcoholic beverages when prices increase. Ideally, tax policies should aim to decrease total ethanol consumption or increase prices of cheap alcohol, or to produce a combination of both.

Countries with an effective and efficient tax administration are in a better position to implement more innovative and complex alcohol tax structures than countries

without such a foundation. Additional measures can be put in place to ensure compliance with tax policies, which is especially important when tax structures are complex. Considering these implementation costs, countries with limited resources available for tax administration or existing tax administration challenges may consider choosing a simple tax structure that reduces administrative costs and burdens.

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ANNEX 3.1. ALCOHOL TAXATION IN THAILAND

Alcohol consumption

The latest national survey in Thailand, conducted in 2017, showed that 28.4% of the adult population (aged 15 years and over) had consumed an alcoholic beverage in the past 12 months, of whom 43.9% were regular drinkers (drinking at least once per week) (1). Furthermore, 10.8% were regular binge drinkers (drinking more than five standard drinks²⁹ at a time at least once per week), and 31.1% were occasional binge drinkers (drinking more than five standard drinks less than once per week). WHO Global Information System on Alcohol and Health (GISAH) reported that in 2019 the adult per capita consumption of alcohol (both recorded and unrecorded) in Thailand was 7.8 litres of alcohol per person per year (2). This is much higher than the average of 3.8 litres per person per year for the WHO South-East Asia Region, but similar to the rates in neighbouring Cambodia (8.5 litres) and the Lao People's Democratic Republic (11.5 litres). The most commonly consumed type of alcohol is spirits, followed by beer (3).

The current alcohol excise tax structure

Thailand has employed several complex mixed alcohol excise tax structures, using both ad valorem and specific taxes, applying different tax rates to multiple categories and tiers based on the type of alcoholic beverages, price, container size and alcohol strength. The Thai Government has increased alcohol tax rates intermittently, combined with several structural reforms (4–6).

The current excise tax structure is referred to as the “one plus one” tax structure. It is a mixed excise tax structure comprising an alcohol-content-based specific tax (the first “one”) and an ad valorem tax (the second “one”), and it has been in place since 2017 (6). The ad valorem tax base is the suggested retail price, inclusive of the excise tax and net of VAT.³⁰ This follows reforms that reduced the complexity of the previous mixed structure. Even though Thailand employs a mixed tax structures, specific taxes are clearly the dominant tax and are more influential in shaping the market.

The tax structure uses a complex array of beverage types and tiers (Table A3.1), dividing alcoholic beverages into nine types and tiers, each with their own specific tax rates. The tiers favour domestic producers and cheap alcoholic beverages. For example, more expensive wine and fruit wine, which are usually imported, pay

29 A standard drink in Thailand contains 16 mL of ethanol.

30 The suggested retail price is determined by the producer; however, these prices must not be lower than the actual retail prices in the market. Retail prices in the market are regularly evaluated by the Director-General of the Department of Excise, who can determine prices directly if the suggested retail price differs from prices in the market.

the highest specific tax rates and the ad valorem tax, while cheaper wine and fruit wine only pay a specific component and do not pay the ad valorem tax. Clear spirits (called “white spirits”) and “other fermented alcoholic beverages”, which are largely domestically produced, pay the lowest specific tax rates and also have the lowest tax per standard drink. Domestic producers have large market shares in all lower-taxed alcoholic beverage types (7). For example, more than 80% of clear and dark spirits are produced locally by a large producer. In addition, two large domestic producers make up 93% of the beer market, and a local company sells more than 70% of the fruit wine marketed in Thailand.

Table A3.1. Alcohol tax structure and rates in Thailand since 2017 (“one plus one”)

BEVERAGE TYPE	AD VALOREM TAX	ALCOHOL-CONTENT-BASED SPECIFIC TAX (baht/litre of pure alcohol)	TOTAL TAX (BAHT/STANDARD DRINK)	RATIO OF TAX TO CLEAR SPIRITS
Fermented alcoholic beverages				
Beer	22%	430	13.3	5.4
Wine and sparkling wine (made from grapes)				
• Recommended retail sale price ≤1000 baht	0%	1500	24.15	9.9
• Recommended retail sale price >1000 baht	10%	1500	51.45	21.0
Fruit wine (may be mixed with grape or grape wine)				
• <7% ABV and sold in a container ≤0.33 litres	10%	150	5.95	2.4
• >7% ABV or sold in a container >0.33 litres				
– Recommended retail sale price ≤1000 baht	0%	900	14.35	5.9
– Recommended retail sale price >1000 baht	10%	900	39.9	16.3
Other fermented alcoholic beverage	10%	150	3.15	1.3
Distilled alcoholic beverages				
Clear spirits (called “white spirits” in Thailand)	2%	155	2.45	1.0
Dark spirits (called “coloured spirits” in Thailand)	20%	255	12.25	5.0

Note: Total tax per standard drink is calculated using the price in 2021.

Source: Excise Department (6).

Previous alcohol excise tax structures

The current excise tax structure in Thailand is a simplification of previous excise tax structures. Prior to 2017, Thailand’s complex tax structure was designed to favour certain alcoholic beverages (mostly domestic ones) (4) as opposed to attaining public

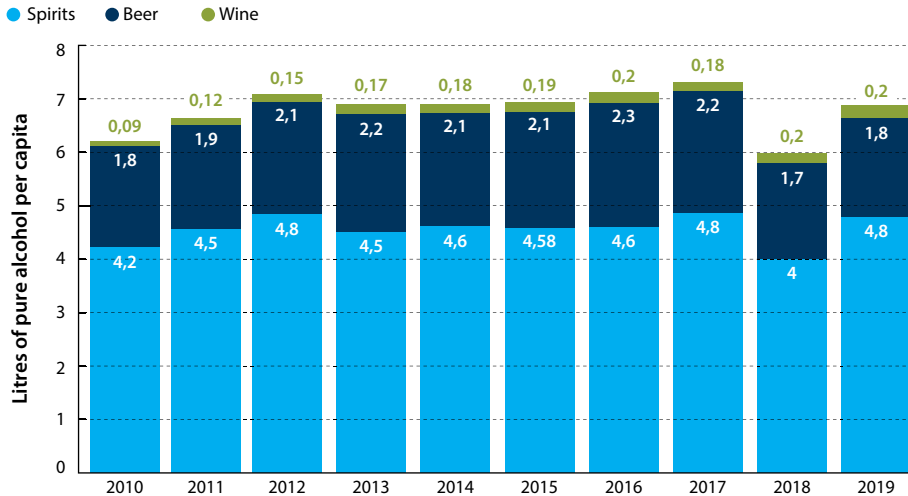
health goals. From 2013 until 2017, the government instituted a more complex mixed tax structure with both specific and ad valorem taxes. This was referred to as the “one plus the higher one” structure, and a specific tax was applied based on the higher of either an alcohol-content-based specific tax or a volumetric/unitary specific tax (6). The ad valorem tax was based on the wholesale price excluding VAT. As with the contemporary structure, several tiers/categories were used.

Prior to the introduction of this structure in 2013, an earlier structure had been in place since 1980. This was effectively an ad valorem tax with a minimum specific floor; it was called the “two-chosen one” structure because the higher tax of an alcohol-content-based specific tax and an ad valorem tax (based on the ex-factory price) was applied (6, 8). Once again, different tax rates were applied to different beverage types and were increased periodically. However, the government did not raise taxes across all categories. This category and beverage type-selective pattern encouraged substitution towards lower-taxed categories (9–11).

Given that only the higher of the alcohol-content-based specific tax and ad valorem tax was levied, only one (the higher of the two) was the effective tax. Empirically, the ad valorem tax was the effective tax for beer, wine and sparkling wine, brandy and expensive whiskies, while the alcohol-content-based specific tax was the effective tax for community-fermented alcoholic beverages, clear spirits, mixed spirits, special blended spirits and cheap whiskies. Effectively, a specific tax was imposed on cheap alcoholic beverages and an ad valorem tax on expensive alcoholic beverages (8, 12).

Lessons learned from Thailand

There is evidence that the current excise tax structure used since 2017 has effectively reduced alcohol consumption. Fig. A3.1 shows the annual per capita alcohol consumption in Thailand from 2010 to 2019. After reforming to the simpler “one plus one” structure in 2017, total consumption declined immediately. Beer contributed more to the decline than clear spirits. This can be (at least in part) explained by the imposition of a higher specific tax on beer while the tax on clear spirits remained unchanged. Policy-makers might consider avoiding such complexity by reducing the number of tiers and harmonizing tax rates among them to reduce substitution.

Fig. A3.1 Alcohol per capita consumption per year in Thailand, 2010–2019, by beverage type

Source: WHO (2).

The weakness of Thailand's alcohol tax structure is that the multiple categories and tiers increase the likelihood of substitution towards lower-taxed alcoholic beverages. Policy-makers might consider reducing the number of categories and tiers and/or harmonize tax rates among them to reduce the incentives and opportunities for substitution. An overly complicated tax structure is unnecessary and may lead to the favouring of some alcoholic beverage types, resulting in reduced impacts on total alcohol consumption.

Instrumental in establishing programmes to reduce alcohol use was the government decision to levy a surcharge and earmark it for the Thai Health Promotion Foundation. The Foundation is an autonomous governmental organization (13, 14) whose budget comes from a 2% surcharge levied on excise taxes from alcohol and tobacco products. The surcharge is levied on top of the excise tax, not subtracted from it, leaving the excise revenue for the regular budget. This funding mechanism has been the most effective means of securing sustainable and long-term funding support for health promotion activities in Thailand (15). Thai health is discussed extensively in Box 6.1 in Chapter 6.

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31 All references accessed 10 October 2023.

ANNEX 3.2. ALCOHOL TAXATION IN SOUTH AFRICA

Alcohol consumption

Notwithstanding some differences between surveys, the proportion of people in South Africa who have ever consumed alcohol is relatively low by international standards. Most studies indicate that about 35–40% of adults in South Africa have ever consumed alcohol (1–3), and that prevalence of alcohol use among males is about double that among females.

Despite having relatively low alcohol consumption levels, the pattern of use among alcohol users is often quite hazardous (1, 2, 4). On average, South African adult alcohol users (drinkers only) in 2016 drank 28.9 litres of pure alcohol annually (with beer the most-consumed alcoholic beverage (3)), which is much higher than the WHO African Region average of 18.4 litres (5). According to a 2014 national household survey, 48% of males and 32% of females who indicated that they consumed alcohol had five or more standard drinks on a typical drinking day, which would classify them as binge drinkers (1).

A different study – based on the same survey but focusing on household rather than individual drinking patterns – found that, of all self-declared alcohol consumption, 3% was consumed by drinkers who had one or two standard drinks per day, 13% by drinkers who had three or four standard drinks per day, 33% by occasional heavy drinkers (five or more drinks per day, for two or fewer days a week) and more than 50% by regular heavy drinkers (five or more drinks a day, for three or more days per week) (3). It thus comes as no surprise that in 2010 WHO classified South Africa's pattern of drinking as “very risky” (3). The prevalence of fetal alcohol syndrome, which is estimated at nearly 600 cases per 10 000 people (i.e. 6%) in South Africa, is one of the highest in the world by far (6).

The current alcohol tax structure

Tax rate, structure and base across alcoholic beverages

At present, South Africa applies alcohol-content-based specific taxes on beer and spirits, generating incentives to reduce total alcohol consumption and discourage high-alcohol-content beverage production. Evidence shows that the change in the tax structure on beer to the alcohol-content-based specific tax resulted in brewers shifting their advertising expenditure to brands with lower alcohol content (7).

However, South Africa applies a volumetric/unitary specific tax on wine that imposes a lighter administrative load on both the producer and the revenue service. There is a wide range of wines, each with a somewhat different alcohol content, although this does not vary enough within each of the three wine categories to justify the additional administrative burden of taxing the beverage by its alcohol

content. From an administrative perspective, taxing the volume of a beverage is easier than taxing the alcoholic content. For beer and spirits, which have greater relative variation in alcohol content than wine, the additional administrative burden of levying the tax on the alcohol content is justified. The current rates and tax bases for each beverage type are shown in Table A3.2.

Table A3.2 Excise taxes on alcohol in South Africa, 2021/2022 fiscal year

BEVERAGE TYPE	TAX RATE (RAND)	TAX BASE
Malt beer	115.08	per litre of absolute alcohol
Traditional African beer	0.0782	per litre
Traditional African beer powder	0.3470	per kilogram
Unfortified wine	4.74	per litre
Fortified wine	7.92	per litre
Sparkling wine	15.51	per litre
Ciders and alcoholic fruit beverages	115.08	per litre of absolute alcohol
Spirits	230.18	per litre of absolute alcohol

Source: Republic of South Africa (8).

The alcohol-content-based specific taxes on beer and spirits encourage reductions in total alcohol consumption, and have generated strong incentives for firms to shift their marketing to lower-alcohol beverages – particularly for beer. While the overall excise tax structure has some desirable features, however, some challenges remain – especially with regard to taxes on beverages that do not easily fit into the standard classification, such as ready-to-drink beverages and spirit coolers (see Annex 5.1 in Chapter 5).

South Africa's alcohol excise tax policy is informed by the excise tax structures and levels of other wine-producing countries. Unfortunately, South Africa's drinking patterns do not correspond to the drinking patterns of most of the prominent wine-producing countries. Whereas countries including Australia, France and Italy score very well on WHO's pattern of drinking score,³² South Africa's pattern of drinking is among the worst in the world. These factors suggest that it may be time for the country to rethink its alcohol tax and pricing policy. It may be that the targeted tax rate should be set at a much higher level so that the excise tax better reflects the harm caused by alcohol consumption in South Africa.

32 This score is generated by WHO, and reflects the alcohol-attributable burden of disease of a country (with a higher score reflecting a higher burden) due to average alcohol consumption and patterns of drinking. The score is a function of the occurrence of various heavy drinking occasions, drinking alcohol with meals and drinking alcohol in public places.

The Southern African Customs Union

South Africa forms part of the Southern African Customs Union (SACU) – also consisting of Botswana, Eswatini, Lesotho and Namibia – and is the largest of the five member countries. Like all customs unions, SACU allows the duty-free movement of goods between its members, and imposes a common external tariff on imports from outside the union. However, SACU is unique among customs unions in that it imposes the same excise tax on excisable products (mainly tobacco, alcohol and petroleum products) on all five members in the union. The customs and excise tax revenues are collected in a common pool, and are divided based on a formula that takes into account the relative size of the members countries' economies and their level of economic development. The formula ensures that the smaller countries receive a disproportionately larger share of the revenue. This is, among other things, to compensate them for the loss of excise and customs control because they are tied to such a dominant country. The agreement is discussed further in Box 6.2 in Chapter 6.

It is important to consider whether the current excise tax structure and rates are sufficient to address the harm resulting from alcohol consumption levels and patterns in all five SACU countries. For instance, the pattern of alcohol use in South Africa is quite hazardous, which makes an alcohol-content-based specific tax on beer and spirits appropriate. However, countries can use other tools to affect alcohol consumption using tax and price measures. For instance, Botswana has implemented an additional levy on alcohol, over and above the SACU-imposed excise tax. The additional tax was levied at 30% of the imported or manufacturer's value (9), and it has resulted in alcohol prices in Botswana being substantially higher than in neighbouring South Africa (10) (discussed in Box 6.2 in Chapter 6). In Lesotho, the Tobacco and Alcohol Products Levy Bill (2020) was approved in parliament in 2022. This will allow Lesotho to impose an additional levy on alcohol products, the revenue of which will go only to the national government (11, 12).

Dealing with inflation

To keep up with inflation, South Africa uses a rather complex system to adjust taxes in each beverage type and tax category annually. This system benchmarks the excise tax as a percentage of retail prices; thus, the focus is on the tax share. The current alcohol tax regime has its origins in 2002, when the National Treasury published a discussion/policy document (13) indicating that alcoholic beverage types (wine, beer and spirits) would be subject to a specific tax, but that the tax would be set in a way that targets a specific tax burden (the sum of the excise tax and VAT, expressed as a percentage of the average retail price). In 2002, the targets set were 23% for wine, 33% for beer and 43% for spirits (13). Wine was subject to a relatively low

tax burden because South Africa is a substantial wine producer, and it was felt that a high tax burden would negatively affect this sector. The tax burden targets were adjusted in 2012 to 35% for beer and 48% for spirits, but the total tax burden on wine remained 23% (14). The benchmark for each beverage type was determined by comparison to international benchmarks, local markets and industry conditions, absolute alcohol content, and social and political perceptions and values (15).

The excise tax, which is levied as a specific tax, is adjusted on an annual basis such that the total tax burden remains at the targeted levels. In practical terms, should the average retail price of an alcoholic beverage type increase by X% in the previous year, then the National Treasury would increase the excise tax by approximately X% in the current budget cycle to make sure the tax burden is maintained. This sometimes resulted in differential excise tax increases on different alcoholic beverage types.

If the retail price increases by more than the inflation rate, the increase in the excise tax required to maintain the total tax burden would also increase by more than the inflation rate. An above-inflation excise tax increase would then be applied. Conversely, if the retail price of alcohol increases by less than the inflation rate, a less-than-inflation increase could be required to maintain the targeted total tax burden. In cases such as these, however, the National Treasury would overrule the principle of maintaining the total tax burden, and would increase the excise tax by the expected inflation rate for the coming year. By doing this, it would effectively increase the total excise tax burden to a level above the target.

This ensures that the real value of the tax is protected, and mitigates the specific excise tax's vulnerability to inflation. Since the introduction of the current tax burden benchmarking system in 2002, excise tax rates on most alcoholic beverages have consistently increased above inflation each year.

Raising government revenue

The revenue raised from alcoholic beverages is substantial in absolute terms, contributing nearly 29 billion rand (US\$ 1.9 billion)³³ in 2019. As a proportion of total gross government revenue its share is modest, however, having increased from about 1.7% in 2010 to 2.1% in 2019 (see Chapter 7).

Lessons learned from South Africa

South Africa has taken a pragmatic approach to alcohol tax design. It levies an alcohol-content-based specific tax on spirits and beer, and volumetric/unitary specific taxes on wine, with a limited number of subcategories of wine. The alcohol-content-based

³³ Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 15.195 rand (2019).

specific taxes encourage reductions in total alcohol consumption and have generated strong incentives for firms to shift their marketing to lower-alcohol beverages – particularly beer. The volumetric/unitary specific taxes on wine are designed to reduce the administrative burden, given the relatively smaller heterogeneity in alcohol strengths of wine, particularly within the subcategories.

Since the early 1990s real excise taxes on alcohol have increased modestly, and have coincided with declines in per capita consumption (see Fig. 3.2 in section 3.3.2.1). However, given that alcohol misuse in South Africa is endemic and imposes a very high cost on society, a more deliberate approach to raise alcohol taxes may be appropriate.

By implementing a benchmarking system, the country has been able to avoid specific excise taxes being eroded by inflation.

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ANNEX 3.3. ALCOHOL TAXATION IN CHILE

Alcohol consumption

Chile has high levels of alcohol consumption, highly concentrated patterns of drinking and, consequently, high social costs of alcohol use. WHO reports that total per capita consumption (recorded plus unrecorded) in 2019 was 6.7 litres of pure alcohol per person aged 15 years and older per year (10.5 litres for men and 3.1 litres for women) (1).

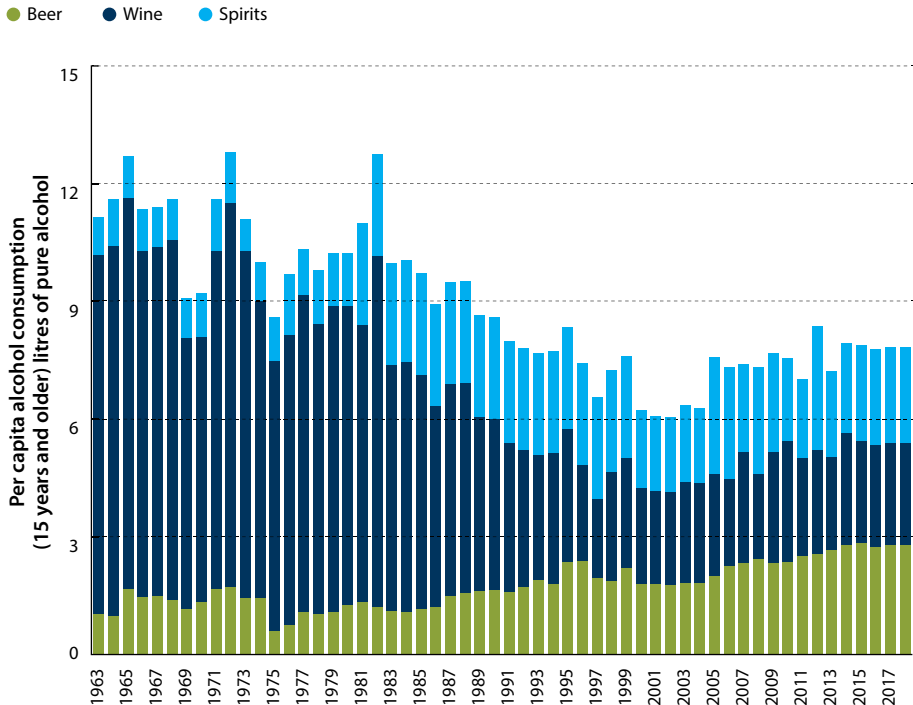
The country also has a high prevalence of binge drinking. The proportion of drinkers reporting that they drank potentially intoxicating levels of alcohol (five standard drinks for males, four standard drinks for females) in the last month reached 56% in 2018 (59.5% among males and 31.4% among females), up from 43.7% in 2014 (2). Even more concerning is the high level of binge drinking among young people. In the group aged 12–18 years, one-month binge drinking prevalence was 55% of drinkers. This should be considered alongside the early onset of alcohol drinking, which has remained stable at 13.5 years (3).

Chile's wine industry

Chile is a major wine-producing country, and history, culture and national pride in Chile's wine industry contribute to the high levels of alcohol consumption and weak policy and regulatory environments. Chile is the fifth largest wine exporter in the world after France, Italy, Spain and Australia (4), and wine accounts for 3% of Chile's total exports (5). Chilean wine is actively marketed abroad, sometimes with government help, and is exploited extensively by the government to promote Chile's brand (6). Chileans are generally proud of the country's wine being recognized as a high-quality product abroad. This pride at the national and individual level is one factor that may explain Chile's relatively high level of alcohol consumption among almost all population groups.

Trends in alcohol consumption

Recorded per capita alcohol consumption in Chile has decreased over the last half century, although it plateaued during the last two decades. Fig. A3.3 shows that in the 1960s recorded per capita (15 years and over) consumption of pure alcohol in Chile was around 10 litres. From that level, it slowly decreased to between 7 and 8 litres of pure alcohol by the beginning of the 21st century. Consumption has maintained that level since.

Fig. A3.3 Recorded per capita alcohol consumption in Chile

Source: Authors' calculations based on data from WHO (1).

The current alcohol tax structure and alcohol tax policy in Chile

Alcohol policies and regulations

Chile has weak alcohol policies and regulations. Even its most stringent policy of prohibiting the sale of alcohol to minors (aged 17 years and under) is not effectively implemented. In 2017, 40% of minors reported that they found it easy or very easy to purchase alcohol, although this was a reduction from 44% in 2011 (7). No laws restrict advertisement, placement or promotion of alcoholic beverages, and alcohol industry self-regulation is rarely enforced. Self-regulation includes commitments not to show minors (or people who look too young) consuming alcohol in marketing, and not to advertise beverages at times when children watch television. However, new forms of advertising through digital channels and social networks are not covered by this self-regulation. There are no national restrictions on operating hours for retail outlets, which are a matter for local (municipal) authorities.

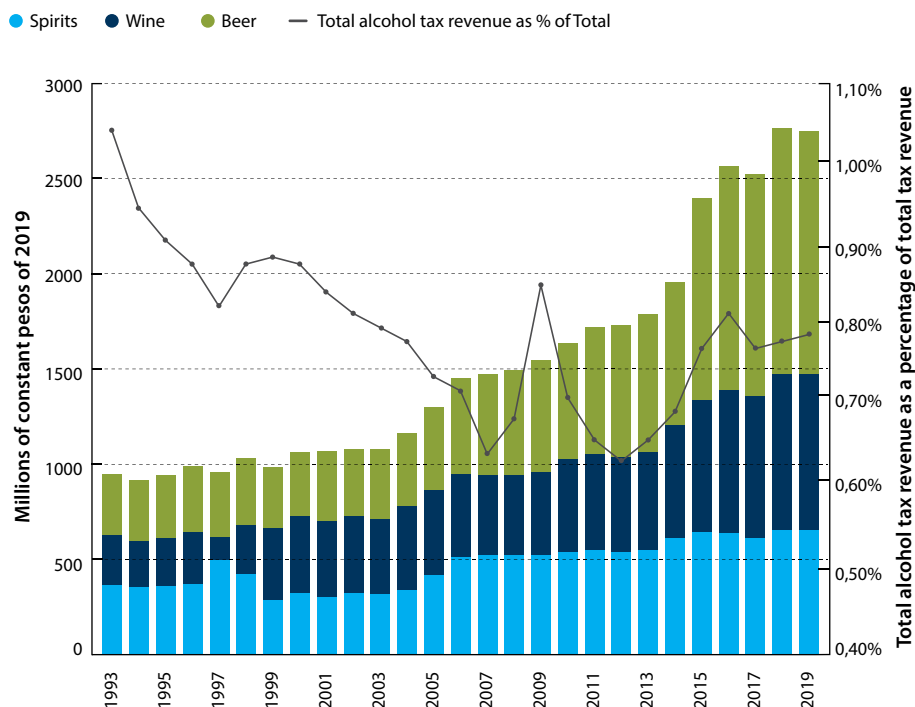
As a sign of progress, a new law on alcohol labelling and advertising was approved in 2021. While imperfect, the law requires alcoholic beverages to include a label on the back of the package warning about excessive alcohol consumption. In addition,

it restricts advertisement at some sporting events, but not at so-called mega-events. This initiative was discussed by Chile's Congress for nearly two decades, and the final law is a very watered-down version of the original proposal. In addition, the alcohol industry has five years to implement its provisions fully.

Alcohol tax structure and tax revenue

Alcohol taxes in Chile are structured as ad valorem taxes applied to the same tax base used for VAT, which is the value added until the last stage of commercialization of the alcoholic beverage (estimated as the difference between the final price, the costs incurred in the commercialization process and VAT). The current alcohol tax rates were increased in a tax reform enacted in October 2014. Beer, wine, cider and sparkling wine are taxed at an ad valorem rate of 20.5% (prior to 2014 the rate was 15%). Spirits (pisco, whisky, rum and vodka), vermouths and fortified wines are taxed at an ad valorem rate of 31.5% (prior to 2014 the rate was 27%). In addition to the excise, VAT is levied at a rate of 19% on all goods in the economy (with a few exceptions) (8).

Fig. A3.4 shows the evolution of real alcohol tax revenues for beer, wine and spirits since 1993, in constant 2019 pesos. It shows that revenues were relatively constant in real terms from 1993 to 2003, when they started to increase. By 2019, real revenues had grown by a factor of 2.5 compared to 2003. This revenue increase was driven primarily by increased sales and marginally by an increased tax burden. Given that the ad valorem tax base is effectively the retail price minus the commercialization cost net of VAT, the fact that real prices did not increase means that the real value of the tax per unit also did not change during this period. Even though revenue increased, the proportion of alcohol excise tax revenue as a percentage of total tax revenue has a clear downward trend, showing the low prioritization (in relative terms) that the government has devoted to raising tax revenue from alcohol.

Fig. A3.4 Total alcohol tax revenues (in Chilean pesos and as a percentage of total tax revenue)

Source: Calculated using data from Servicio de Impuestos Internos (9).

Alcohol prices and affordability

The ad valorem tax used by Chile illustrates how ineffective ad valorem taxes can be at increasing the real prices of alcoholic beverages. As shown in Box 3.3 in section 3.3.1.3, there has been a steep – almost constant – increase in the affordability of alcohol since April 1993. The dramatic increase in affordability is consistent with the lack of a further decline in consumption over the last two decades.

The lobbying power of alcohol producers in Chile

In 2014, when the last tax reform was discussed, some Parliamentarians actively lobbied against the increase on alcohol taxes. This ensured that the tax increases enacted were very small. Alcohol lobbying is widespread and does not receive any social condemnation, unlike tobacco lobbying (10). Meanwhile, public support for increasing alcohol taxes is strong. Survey data show that a large (but decreasing over time) majority of people agree with increasing alcohol taxes (7).

Lessons learned from Chile

Chile has a weak alcohol policy and regulatory environment, which includes alcohol taxes. It makes use of an ad valorem tax, and is a typical example of how the tax per unit does not increase over time under an ad valorem structure. Producers are incentivized not to increase prices in real terms, since increases in prices will result in increased tax per unit, even if the tax rate remains unchanged.

The combination of weak alcohol policy and irregular tax increases has coincided with rapid increases in the affordability of alcohol. Today the average Chilean must work almost half the time they had to work three decades ago to purchase an average alcoholic beverage. This country example illustrates the importance of regular tax increases to ensure that they continue to have a public health impact by decreasing consumption of alcoholic beverages.

One of the barriers that Chile, and other countries, may face or are facing is the strong lobbying power of the alcohol industry (discussed in detail in section 7.2 of Chapter 7). The weak policy and regulatory environments have been affected by strong lobbying by alcohol producers. In 2014, when the last tax reform was discussed, members of the governing coalition threatened to derail the entire tax reform (of which, in terms of revenue, alcohol taxes were insignificant) if alcohol taxes were increased. This ensured that the tax increases enacted were very small. Policy-makers may consider the approaches discussed in Chapter 7 when industry opposition is encountered to alcohol tax and pricing policies.

Countries that intend to reduce the social costs associated with alcohol consumption should consider how best to make decisive progress by reforming the alcohol tax structure, and should increase alcohol taxes to increase prices and reduce alcohol affordability.

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CHAPTER 4

Complementary measures to tax policies

Key messages

- Governments may restrict industry's ability to sell alcohol at too low a price by implementing regulatory measures – such as minimum pricing (MP) policies – and by restricting temporary price promotions like “happy hour” events.
- Evidence shows that MP policies are effective at reducing alcohol use and alcohol-related harms. When implementing an MP policy, countries should consider several design attributes – including setting MP rates for all alcohol sales and for all alcoholic beverage types; basing the minimum price on the volume of ethanol for all alcoholic beverages; setting the rate carefully to affect the targeted alcoholic beverages; automatically indexing the MP rates to inflation; and ensuring that alcoholic beverages do not become more affordable.
- Other pricing policies include banning below-cost sales, quantity-based discounts and price promotions. Empirical evidence measuring the effectiveness of these measures is limited.
- **The key messages for policy and implementation** are that pricing policies are not a replacement for alcohol tax policies, and should only be implemented as part of a well-designed alcohol tax system. Implementation of pricing policies alongside a weak alcohol tax system will result in a transfer of economic rents or excessive profits to the alcohol industry, and may undermine tax revenue. A robust pricing policy can act as a complement to a strong alcohol tax policy, and can bolster its effectiveness.

As discussed in earlier chapters, excise tax is the most appropriate fiscal policy tool available to governments simultaneously to reduce alcohol consumption and raise revenue. Importantly, the purpose of raising taxes is to increase prices in order to reduce alcohol use; however, industry pricing strategies can undermine these goals. Such strategies include price discrimination – whereby largely similar alcoholic beverages are sold for different prices in the same market – discounting and under-shifting taxes onto cheaper alcoholic beverages (see Box 3.2 in Chapter 3). These industry strategies are likely to increase the affordability of alcoholic beverages.

In some situations, often due to industry pricing strategies, raising taxes or reforming tax structures alone may not be sufficient to reduce alcohol consumption. In these cases, governments can develop complementary pricing policies, along with tax policies, to ensure their effectiveness to reduce consumption. These pricing policies include MP, bans on sales below cost and restrictions on sales promotions (such as volume discounts) (1). They are not a replacement for tax policies but a complementary measure: pricing policies are most effective when implemented alongside a system of well-designed, comprehensive alcohol control policies. Implementing pricing policies in the absence of a well-designed tax policy may be counterproductive if they transfer the economic rents or excessive revenues/profits directly to producers rather than to the treasury.

MP is a policy measure that prohibits alcohol sales to consumers below a designated price (2). Similarly, a ban on sales below cost is an economic policy intervention wherein sellers must abide by directives to not sell below their cost of doing business or some other proximal price (1). Restrictions on sales promotions are prohibitions of marketing strategies that sellers use to increase alcohol sales temporarily, such as volume discounts, two-for-one promotions and happy hour events.

As reported in WHO's 2018 *Global status report on alcohol and health*, as of 2016, almost all countries utilize alcohol excise tax policies (for example, 95% of the 164 countries tracked by WHO use excise tax for beer), while only 7% adopt MP strategies, 4% have bans on volume discounts and 2% enforce bans on sales below cost (3).

This chapter reviews the rationale for pricing and other policies – such as bans on pricing promotions – as complements to alcohol tax policies, highlighting the attributes of the various approaches and evaluating the evidence of their effectiveness. Furthermore, it highlights implementation considerations and challenges, and provides policy considerations for countries that may wish to implement pricing policies alongside their well-designed alcohol tax systems.

4.1 MINIMUM PRICES BASED ON ALCOHOL CONTENT OR BEVERAGE VOLUME

MP is a policy tool that prohibits alcohol sales to consumers below a designated price. The minimum price can be based on either the unit of alcohol content (referred to in this manual as “MP based on alcohol content”) or the alcohol by volume (ABV) (referred to in this manual as “MP based on beverage volume”). MP based on alcohol content sets a floor price for a fixed volume of ethanol, while MP based on beverage volume sets a floor price for a specific volume of a finished product.

For instance, given two similar alcoholic beverages with different levels of ABV (such as a bottle of wine with 12% ABV and one with 14% ABV), MP would affect

those products in the same way if set based on beverage volume, but the impact on the products would be different if the minimum price is set based on alcohol content (4). This focus on the strength of the alcohol bears a resemblance, in some respects, to alcohol-content-based specific taxes, as described in Chapter 3, as these may generate similar incentives. A minimum price based on alcohol content is better targeted and correlated to alcohol strength than a minimum price based on beverage volume.

Note that when this chapter refers to “MP” without the qualifier of “based on alcohol content/beverage volume”, the reader can assume that this refers to both forms of MP policy.

Several Canadian provinces began to implement MP in the 1990s, followed by Armenia, Australia, Belarus, Ireland, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Slovakia, Uzbekistan and Ukraine (4, 5). More recently, Scotland, United Kingdom, implemented an MP policy in 2018 (6).

Box 4.1. MP versus minimum unit pricing

The terms “minimum pricing” and “minimum unit pricing” are often used interchangeably in policy and evidence, and it is not always clear whether they are referring to the minimum price based on alcohol content or the minimum price based on beverage volume.

An earlier WHO publication (*No place for cheap alcohol: the potential value of minimum pricing for protecting lives*) makes a clear distinction. This defines minimum unit pricing as setting the minimum price based on the alcohol content of a beverage, and MP as setting the minimum price based on beverage volume (4). This definition does not always correspond to policy documentation, however. For instance, in 2018, Scotland, United Kingdom adopted a minimum price based on alcohol content, but the policy is referred to as a “minimum pricing policy” in the relevant act of parliament: the *Alcohol (Minimum Pricing) (Scotland) Act 2012* (7).

To keep matters simple, the manual will generally only refer to “MP” without the qualifier of “based on alcohol content/beverage volume”. It will refer specifically to “MP based on alcohol content” and “MP based on beverage volume” when the distinction is appropriate and necessary.

4.1.1 MP IMPLEMENTATION CONSIDERATIONS

Countries should take a number of considerations into account when implementing MP policies. First, MP can be **an effective tool to reduce heavy drinking**. A significant body of research has demonstrated that heavy drinkers tend to drink the cheapest alcoholic beverages (8–12). Using MP for alcohol is seen as a policy intervention complementary to taxation, owing to its ability to target heavy drinkers without burdening moderate or light drinkers (4).

The next consideration is that the **alcohol industry is likely to accrue economic rents** from MP policies. Unlike tax revenues, economic rents from MP policies are likely to accrue to the alcohol supply chain rather than the public or the state (2). However, these economic rents do accrue to the government in a state or country like Canada that has a monopoly on alcohol sales. This strongly suggests that an MP policy should not be seen as a replacement for but rather as a complement to a comprehensive, well-designed system of tax policies. A strong tax system will ensure that the transfer of rents to the alcohol supply chain is minimized. Furthermore, as the prices of alcoholic beverages increase with MP, so will the value-added or sales tax revenue collected by the government (4).

Another challenge is that **MP policies may be questioned on legal grounds**, under either domestic or international law. In the 1990s, the United States of America challenged Canada's MP policy under the General Agreement on Tariffs and Trade treaty as being anticompetitive. This challenge was not successful, however (13). Multinational alcohol industry groups also contested the legality of MP, resulting in a legal battle involving the entire European Union (EU) (14). EU trade laws, however, permit anticompetitive practice on public health grounds (15).

In the United Kingdom, after a five-year legal battle led by the Scotch Whisky Association against the Scottish Government's plans to introduce a minimum price based on alcohol content for all alcoholic beverages, the United Kingdom's Supreme Court ruled in November 2017 that it was legal on health grounds under EU law (4, 16). The ruling permitted governments to apply MP based on alcohol content to curtail problems caused by harmful alcohol use – especially the harm caused by drinking cheap alcohol.

These cases highlight the need to be explicit about the intention of implementing MP: to address high-strength, low-cost alcohol consumption within a country. These objectives need to be substantiated with impact assessments by impartial parties that illustrate current patterns of alcohol consumption (4). See section 7.4 in Chapter 7 for a more thorough consideration of the legal and international trade aspects of alcohol tax and pricing policies, including MP policies.

A final detail that countries need to consider is the **administrative capacity required for implementing pricing policies** – including monitoring and surveillance.

With alcohol tax policy, effective tax administration is necessary to ensure that taxes are collected efficiently. Similarly, pricing policies require effective systems to ensure that policies are implemented correctly. However, the complexity of administering MP policies may be significantly more costly than that for tax policies, since pricing policies may have more variations. Moreover, pricing policies are implemented at the retail level, whereas taxes are almost always collected at the point of production or importation.

Thus, administration of pricing policies requires monitoring of a dramatically larger number of parties at significantly more transaction points than administration of tax policies. Countries with large informal alcohol sectors should consider whether there is scope to improve enforcement of pricing policies and their regulations. For instance, Scotland, United Kingdom, works with retailers voluntarily through discussion to address breaches of MP based on alcohol content regulations. However, repeated breaches may result in a review and eventual revocation of a retailer's alcohol licence. This approach to monitoring and surveillance requires significant human capacity (17).

4.1.2 CASE STUDIES

Various factors go into the design of an MP policy, whether it is based on alcohol content or beverage volume. This section examines the design of the MP policies in Scotland, United Kingdom, and British Columbia and Ontario, Canada, to assess the various attributes of the policies and highlight key issues that countries could consider when implementing an MP policy. Several examples of country experiences are also discussed in the WHO publication *No place for cheap alcohol: the potential value of minimum pricing for protecting lives* (4).

4.1.2.1 Scotland, United Kingdom: minimum price based on alcohol content

From 1 May 2018, Scotland imposed a minimum price of £0.50 (US\$ 0.65)³⁶ per standard unit of alcohol for all alcoholic beverages sold in off- and on-premise establishments, including alcohol sold online and by telephone. A standard unit of alcohol in Scotland is defined as 10 millilitres or 8 grams of pure alcohol (17). The rate was set after considering the scientific evidence and following a public consultation; its aim was to reduce the affordability of alcohol in Scotland. It followed the simplest system, which applies a single rate based on the ethanol content of alcoholic beverages for all alcoholic beverages.

³⁶ Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = £0.767 (2018).

The Scottish Government requires businesses and others who sell alcohol to ensure that their pricing systems are accurate to prevent any alcohol sales below the minimum price. Moreover, it is a mandatory requirement for all people involved in the sale or serving of alcohol in Scotland to receive staff training that includes material on the minimum price (17).

In Scotland, the MP rate is not indexed to inflation, and it has not yet been adjusted since its implementation. While indexing annual increases to inflation may be an appropriate anchor in many high-income countries, more rapid economic growth in many low- and middle-income countries may require minimum prices to be linked to affordability (which would target both income and inflation) rather than inflation alone.

4.1.2.2 Canada: minimum prices based on alcoholic beverage volume and distribution channel

Based on an analysis of alcohol prices and the scientific evidence, the Canadian public health authorities recommended minimum prices for all alcoholic beverage types of at least Can\$ 1.50 (US\$ 1.41) per standard drink for alcohol sold in off-premise establishments, and at least Can\$ 3.00 (US\$ 2.82) per standard drink for alcohol sold in on-premise establishments (18).³⁷ A standard drink size is larger in Canada (at 13.45 grams of pure alcohol) than in Scotland,³⁸ as the British model was intended to accommodate a smaller pour size without resorting to fractional units (19).

In Canada, 10 of the 13 provinces and territories have some form of MP policy, with differences in the on- and off-trade prices and beverage types on which the minimum price is being imposed (4). Some provinces impose double the minimum price for alcoholic beverages sold in on-premise as opposed to off-premise establishments, since on-premise prices are almost always higher (15). An additional motivation for higher MP policies for on-premise consumption is that drinking in venues like pubs has been empirically linked to heavy drinking and intoxication (20) – notably in Canada (21).

Most Canadian provinces and territories set MP policies based on the volume of the beverage. However, Manitoba (for beer only) and Ontario (for beer and coolers that exceed 5.6% ABV only) set MP policies based on alcohol content (15). British Columbia has a more complex system that employs different rates based on beverage volume for different types of alcoholic beverages. Among Canadian provinces and

37 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = Can\$ 1.062 (2010).

38 A standard drink in Canada is 17.05 millilitres of ethanol, which is equivalent to 13.45 grams. For the sake of comparison, this is 1.71 times larger than the United Kingdom's standard unit.

territories, Ontario has the most complex system, which sets different rates based on the volume of the alcoholic beverage or the pure alcohol content, depending on beverage type, size and ABV percentage.

The Canadian country example presents a complicated example of different provinces within a country having differing rates and structures. Some argue that the harm reduction potential of the policy in Canada has not been fully realized due to the policy's different implementation across the country (15). A simpler MP system might facilitate a more straightforward and more manageable implementation system, lowering regulatory and administrative burdens and costs, and potentially reducing the potential for manipulation or abuse. Additionally, lower MP rates for larger containers may encourage consumers to buy higher volumes of alcohol, as was the case in two Canadian provinces that set lower MP rates for alcohol sold in larger containers. Finally, MP policies based on the volume of ethanol may encourage consumers to drink high-strength, low-price alcoholic beverages because each unit of ethanol in high-strength alcoholic beverages bears lower effective MP rates (15).

MP rates need to be adjusted annually to keep up with or even outpace inflation and economic growth. Only two jurisdictions in Canada automatically index their MP rates with inflation annually, but not for all alcoholic beverages. Ontario indexes minimum prices for all alcoholic beverages sold in off-premise establishments, and Quebec does so for beer sold in off-premise establishments (15). These two provinces do not index MP rates for other beverages sold in off-premise establishments or for beverages sold in on-premise establishments. MP policies in other Canadian provinces have been increased intermittently in ad hoc ways (15).

The lack of universal automatic inflation of MP rates means that they are eroded by inflation over time. This is a similar challenge to specific taxes as discussed in Chapter 3. For example, the average MP rate for beer has declined in real terms since 2005 in British Columbia, Manitoba, New Brunswick, Newfoundland and Ontario (15). However, the MP rate for beer in Nova Scotia, Prince Edward Island, Quebec and Saskatchewan has increased relative to inflation since 2005 because of regular – albeit ad hoc – adjustments in the MP every few years.

4.1.2.3 Lessons learned

The experiences of Canada and Scotland in applying MP policies suggest various best practices, including the following.

- MP policies should be set for all alcohol sales and for all alcoholic beverages, including in both on- and off-premise establishments. This will ensure the effectiveness of the MP policy and reduce opportunities for people to avoid higher prices by seeking cheaper alternatives.

- The MP rate should be chosen carefully to affect the targeted alcoholic beverages, and should be based on volume of ethanol for all alcoholic beverages. This will ensure that the policy targets alcohol harm more effectively, and will discourage consumers from purchasing larger containers or high-strength, low-price alcoholic beverages (as is the case when an MP policy is based on beverage volume).
- The MP policy should be automatically (annually) indexed to inflation and to nominal income, to ensure that the real value of the policy is not eroded over time. This is similar to best practices for specific taxes, as highlighted in Chapter 3.

4.1.3 EVIDENCE OF THE EFFECTIVENESS OF MP

Most of the evidence on the effectiveness of MP policies comes from research conducted in higher-income countries (4). Several modelling studies in England, United Kingdom (11, 22–25), and Australia (26, 27) support the argument that MP could decrease alcohol consumption among heavy drinkers and subsequently reduce the ensuing alcohol-related harms. Empirical studies evaluating MP policies at the provincial level in Canada and Scotland, United Kingdom, show that – as a complement to alcohol tax policies – MP policies significantly reduce overall alcohol consumption (Table 4.1).

Table 4.1. Evidence on MP policies (non-exhaustive)

COUNTRY	POLICY	RESULT
British Columbia, Canada	The government increased MP for alcoholic beverages periodically during 1989–2010. These changes resulted in a combined 10% increase in minimum prices. In British Columbia, MP policies vary by alcohol type, serving size and packaging.	Alcohol consumption decreased by 3.4% for all alcoholic drinks, by 1.5% for beer, by 6.8% for spirits and liqueurs, by 8.9% for wine and by 13.9% for alcoholic sodas and ciders (28). From 2002 to 2009 there were reductions of alcohol-attributable hospitalizations (29) and wholly (100% attributable) alcohol-attributable deaths (i.e. from alcohol dependence or alcoholic psychosis). Delayed (2–3 years later) reductions were also seen in acute and chronic alcohol-attributable deaths (30), as well as in alcohol-related traffic violations and crimes (31).

COUNTRY	POLICY	RESULT
Saskatchewan, Canada	An MP policy based on beverage volume existed for spirits, wine and beer before April 2010. In 2010, the government introduced MP tiers based on alcohol strength. In addition, MP rates were also introduced for liqueurs, cocktails and coolers. Overall MP rates were increased by 10%.	Consumption of beer fell by 10.1%, of spirits by 5.9%, of wine by 4.6% and of all beverages combined by 8.4%. A larger reduction was seen in consumption of higher-strength beers ^a (22.0% reduction) than lower-strength beers (8.2% reduction). The declines were larger for off-premise than on-premise sales (32).
Scotland, United Kingdom	A minimum price of £0.50 (US\$ 0.65) ^b per unit of alcohol ^c was introduced in 2018.	The policy reduced deaths directly caused by alcohol consumption by approximately 13.4% and hospital admissions by 4.1%. The effect was larger among men. MUP resulted in a 3% reduction in alcohol consumption at the population level. The reduction in sales was driven by off-trade cider and spirits. These products increased the most in price. The reduction was more pronounced among high-volume-purchasing households (6, 33).

Notes:

^a Beers with an ABV greater than 6.5%;

^b Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = £0.767 (2018);

^c A standard unit of alcohol in the United Kingdom is 10 millilitres of ethanol, which is equivalent to 8 grams. The minimum unit price of £0.50 per unit is equivalent to £0.05 per millilitre or £0.0625 per gram of ethanol.

4.2 POLICIES PROHIBITING SALES BELOW COST, RESTRICTING SALES PROMOTIONS AND BANNING VOLUME DISCOUNTS

In addition to MP policies, other regulatory measures are available to governments that focus on specific pricing challenges. Discounts applied to the sale of alcoholic beverages raise public health concerns. In on-premise establishments, alcohol discounting is usually used to promote so-called happy hours, or periods of time wherein alcohol is sold at lower than usual prices. Evidence demonstrates that these types of promotion accelerate alcohol consumption by concentrating it in short or rapid periods. Experimental studies have found that alcohol consumption normally doubles during happy hour specials (34, 35). An ecological study found relationships between college students' binge-drinking rates and the number of discount alcohol promotions near their residences (36). Similar effects were also evident for happy hour specials in the Kingdom of the Netherlands (37) and for all-you-can-drink events in the United States (38, 39). Based on data from bar-going respondents in the United States, almost two thirds drank more and/or more quickly during periods of happy hour specials (40). This invariably results in a greater chance of driving while under

the influence of alcohol and of becoming involved in an altercation while drunk. **A number of jurisdictions have banned or restricted happy hour-style promotions**, although limited well-designed research has examined the effects of these control measures to date (41, 42).

In off-premise establishments, especially in chain grocery stores, alcoholic beverages are often discounted significantly to entice customers to enter their premises. In the retail sector, this type of promotion is referred to as a “loss leader”. Such tactics are frequently used in the United Kingdom, where grocery stores commonly advertise and market alcohol at prices below cost. It has been estimated that a total ban on off-trade discounting would reduce alcohol consumption by 2.8% in England, United Kingdom (22). However, further modelling suggests that a **ban on below-cost selling** would not have as great an impact as implementing MP policies (24).

Volume discounts in off-premise establishments offer consumers a price discount if they purchase alcoholic beverages in bulk. In 2011, Scotland, United Kingdom, introduced a new regulation that **bans quantity-based discounts** in off-premise establishments. These include, for example, promotions such as three for the price of two or other multibuy promotions that incentivize consumers to purchase more alcoholic beverages than they would have without the promotion (43). One study found that the introduction of the legislation resulted in a reduction in off-site alcohol sales – specifically in wine sales (44). However, another study using a different methodology found that the multibuy ban had no impact on alcohol sales (45). These bans on volume discounts have not been widely practised, but other countries that have implemented them at some point include Burkina Faso, Canada, Finland, Mozambique, Sweden and Switzerland (46).

Implementation of such policies may have unintended consequences, however, as was the case in Finland. In 2008, the Finnish Government implemented a ban on volume discounts and on offering servings of alcoholic beverages at a jointly reduced price. Prior to the ban, the average cost of a single can of beer was € 1 (US\$ 1.3), but a 12-pack of beer cost only € 9 (US\$ 11.6), which would equate to € 0.75 (US\$ 0.97) per can of beer.³⁹ After the introduction of the volume discount ban, retailers decreased the average price of a single can of beer to the average price of a can of beer bought in a 12-pack (around € 0.75 or US\$ 0.97) in order to comply with the new legislation. This example highlights the need to implement pricing policies as a complement to a strong alcohol tax policy, rather than as a substitute, if the public health goal of increasing prices and reducing harmful consumption is to be attained (47).

³⁹ Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = €0.773 (2012).

4.3 CONCLUSION

Governments may implement regulatory measures to prevent the industry selling alcoholic beverages at too low a price. These policies include MP, restrictions on sales promotions and prohibition of marketing strategies used by sellers to increase alcohol sales temporarily, such as volume discounts, two-for-one promotions and happy hour events.

Evidence shows that MP policies are effective at reducing alcohol use and alcohol-related harms. However, countries should consider many design attributes when implementing MP policies. These include setting a policy for all alcohol sales and for all alcoholic beverages, basing the minimum price on the volume of ethanol for all alcoholic beverages, setting the rate carefully to affect the targeted alcoholic beverages and automatically indexing MP rates to inflation to reduce affordability. It should also be noted that while MPs have been challenged in national and international courts, their legality has been upheld.

Nonetheless, pricing policies are not a replacement for alcohol tax policies and, if implemented, should form part of a well-designed, comprehensive alcohol control programme. Implementation alongside a weak alcohol tax system will result in a transfer of economic rents to the alcohol industry, and may undermine other government policy goals, including increasing tax revenue. A well-designed pricing policy may act as a complement to a strong alcohol tax policy, and may bolster its effectiveness. Furthermore, pricing policies are most effective when targeting specific challenges with alcohol-related harm, like binge drinking.

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CHAPTER 5

Tax administration

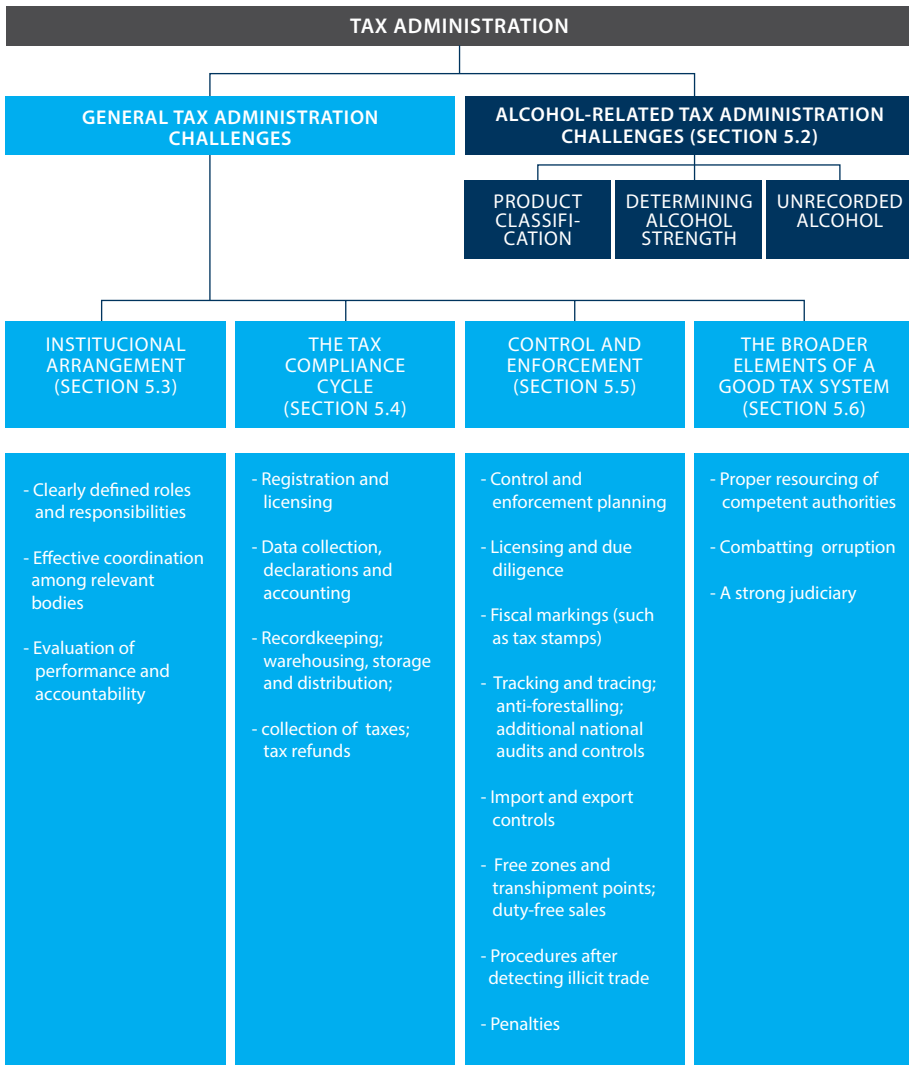
5.1 INTRODUCTION

Governments often find themselves balancing interests between fiscal and public health objectives. Imposing excise taxes on alcoholic beverages can help with both. Public health and fiscal objectives can best be achieved by an efficient and effective competent authority with strong technical capacity to enforce and collect taxes. A competent authority is the agency, organization or department that is legally assigned to complete a particular activity; in the case of administering alcohol taxes, the competent authority is often a tax administration, revenue authority, customs department or ministry of finance.

An efficient and effective alcohol tax system should be structured in such a way as to minimize the cost of compliance and administration by reducing the cost per unit of tax revenue collected – which is measured by comparing the resources used with the revenue generated – while ensuring that the appropriate or desired level of revenue is raised (1, 2). Furthermore, effective administration of alcohol taxes enhances tax compliance and collection of revenue while minimizing unrecorded alcohol, reducing tax avoidance and limiting tax evasion (via illicit trade) (3, 4). Thus, an efficient and effective competent authority collects the tax at a minimum cost while ensuring maximum conformity to the rules. The taxing of another excisable product – tobacco – strives to achieve a similar balance between tax administration and public health and revenue goals. Many of the considerations for creating an efficient and effective tax administration system are drawn from existing publications on tobacco (1, 2).

This chapter describes the shared characteristics of good tax administrations, including best practices based on country experiences. Many of the administrative arrangements for excise tax are similar for most excisable products – particularly institutional and tax compliance arrangements. However, as with any excisable product, tax administrators come across many unique characteristics and challenges that require unique or product-specific processes or interventions. The chapter considers these first (section 5.2) before moving on to more generic excise tax administration issues. These distinctions and main considerations are laid out in Fig. 5.1 to assist the reader with keeping track of the various overall and product-specific tax administration challenges.

Fig. 5.1. Alcohol-related versus general tax administration challenges



5.2 ALCOHOL-SPECIFIC TAX ADMINISTRATION CHALLENGES

This section discusses administrative challenges particular to alcohol excise taxation, including product classification, alcohol strength determination and unrecorded alcohol.

5.2.1 PRODUCT CLASSIFICATION

Key messages

- There is significant heterogeneity of alcoholic beverages, which creates a challenge for deciding how various alcoholic beverages are taxed. Most countries have different tax structures and rates that vary for different products.
- **The key message for policy and implementation** is that it is critically important for tax administrators to have clear definitions of different alcoholic beverages and tax categories in laws or regulations. This will reduce the opportunities for tax avoidance and tax evasion, as well as simplifying tax administration.

The first challenge that many tax administrators face is that of definitions of alcoholic beverages. As discussed in Chapters 2 and 3, alcoholic beverages come in many different types. Since many – if not most – jurisdictions tax different alcoholic beverages using different tax structures and rates, it is important to create definitions of beverages within categories and types. In many cases, countries need to create definitions for alcoholic beverage types in laws or regulations. This issue is illustrated in the comprehensive country example of alcohol tax administration in South Africa in Annex 5.1.

The presence of clear product definitions determines not only how producers may try to avoid taxes when different structures and rates generate incentives to do so but also how and when tax administration authorities are able to take action to ensure fulfilment of their tax policy goals. Poorly defined categories make tax administration more challenging and costly, meaning that tax administrators spend more resources assessing which categories alcoholic beverages should be taxed within, and may face more challenges from producers.

Product definitions are also intrinsically linked to customs classifications. For simplicity, some countries may use the customs classifications for excise purposes as well. Either way, there should be strong collaboration between excise and customs authorities to ensure harmonization of the classification system, and to ensure that there is no divergence between customs and excise classifications, since this may generate opportunities for tax avoidance. The Harmonized Commodity Description and Coding System (HS), an international product nomenclature from the

World Customs Organization (WCO), ensures the uniform tariff classification of goods for international trade. Tariff classification in terms of the HS also applies to those goods for excise duty purposes. Alignment between the appropriate tariff classification and alcohol excise taxation is therefore necessary to avoid anomalies or uncertainty regarding the excise tax rates applicable to a particular alcoholic beverage or product category.

Box 5.1 provides an example of how Ireland published a manual to deal with the complexity of the definition of alcoholic beverages for excise tax administration, and Box 5.2 describes product classification challenges faced by South Africa.

Box 5.1. Ireland's definitions of alcoholic beverages for the purposes of excise tax administration

Ireland published the Alcohol Products Tax and Reliefs Manual (5) in 2020, which includes detailed information and guidance on alcoholic beverage classifications. Classification of alcoholic beverages is particularly important in Ireland, since the tax structure and rates differ based on these product classifications. The purpose of the manual is to assist tax administrators in interpreting the definitions contained within the Finance Act 2003 in a transparent manner to enable more efficient and effective tax administration, but it also gives clear guidance to producers and importers. This example is provided not for other countries to copy but to demonstrate the detail and clarity with which categories should be defined to operate an efficient and effective tax administration. Other countries may find that much simpler classifications are more useful, especially if their tax system does not require a higher level of detail. Some of the classifications of beverage types described in the manual are detailed in Annex 52.

As a member of the European Union (EU), Ireland uses the Combined Nomenclature (CN) codes as a tool for classifying goods. The CN is the EU's coding system used to classify products when they are declared to customs authorities in the EU. Specifically, CN codes are eight-digit codes that comprise the six-digit international HS codes and two further CN digits (see Annex 5.2 for further details). The manual classifies alcoholic beverages into five categories: spirits, beer, wine, other fermented beverages and intermediate beverages (which contain alcohol from both fermentation and distillation). Broadly, the categorization is based on the following characteristics: the method for producing alcohol (distillation versus fermentation); the product from which the alcohol is obtained (grapes, malt, apples, pears and so on); and the percentage of alcohol by volume (ABV).

Alcoholic beverages should be able to be classified by referring to the guidelines outlined in Annex 5.2; however, there is additional guidance from decisions of the Court of Justice of the EU including the Siebrand decision for alcoholic beverages containing a mixture of fermented and distilled alcohol products or the “malt beer base” decision for products containing a fermented base. Where classification is not clearly evident from an initial examination, samples are requested from the producer or importer, and are sent to the State Laboratory for analysis.

Lesson learned

- Clearly defined categories, detailed information and guidance on alcoholic beverage classifications are necessary for efficient and effective tax administration.

Box 5.2. South Africa’s challenges in the classification of alcoholic beverages: fermented versus spirit-based products

South Africa applies differential excise tax rates across alcoholic beverage categories, and fermented alcohol is taxed at a lower rate than spirits (see Annex 3.2 in Chapter 3 for a description of South Africa’s current system and its history). For example, while a rate of 115.08 rand (or US\$ 7.25) per litre of absolute alcohol applied to malt beer in 2022, a rate of 230.18 rand (or US\$ 14.49) per litre of absolute alcohol applies to spirits in 2022.^a The widening differential between the rates for beverages of fermented origin compared to spirits gives rise to anomalies, especially in the ready-to-drink beverage (RTD) and cider beverage markets. This in turn, can create incentives to reduce tax liability by classifying alcoholic beverages as lower-taxed categories.

Technological advances in alcohol manufacturing and product development have blurred the traditional distinction between alcoholic beverages, their tariff classification and their resultant excise tax treatment. Alcoholic beverages with a fermented alcohol base can be treated through accepted purification practices that alter their essential fermented character. Activated carbon fining, ultrafiltration, reverse osmosis and centrifugation for clarification, removal of particulate matter and stripping of flavour, smell and colour taints have become routine processes in the manufacture of fermented alcoholic beverages. As a result, it is difficult to distinguish between fermented beverages that have been stripped of their fermented character and spirits.

In 2009, the Harmonized System Committee of the WCO issued a classification opinion that fermented alcoholic beverages that underwent processes that removed all original characteristics of the alcoholic beverages should be classified as spirits under tariff heading 22.08. A number of cases between the South African Revenue

Service and large alcohol producers were heard in court between 2010 and 2018, and the judgements were aligned with the Committee's opinion.

RTDs are typically mixtures of an underlying alcohol base with other ingredients like mixers, fruit juices or flavourings. RTDs with a fermented alcohol base are taxed at the rate for malt beer, while those with a distilled alcohol base are taxed at the higher spirits rate. RTDs from fermented fruit or grain therefore bear a lower alcohol tax burden than those from distilled spirits, despite the competing beverages being potential substitutes with similar alcohol content. Policy-makers should strive to tax substitute beverages equally in order to avoid providing incentives for industry to misclassify alcoholic beverages in order to diminish their tax liabilities.

Lesson learned

- Differing tax rates and structures across alcohol categories may create an incentive for the industry to manipulate alcoholic beverage classifications in order to fall into a lower tax category. As a result, alcoholic beverages that might be considered substitutes may have different tax liabilities. A uniform tax rate across these beverage categories could be a way to prevent such tax avoidance strategies.

Note: ^a Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 15.882 rand (2022).

5.2.2 DETERMINING ALCOHOL STRENGTH

Key messages

- Determining the strength of alcoholic beverages is important, especially when the base of the excise tax rate is the alcohol content.
- A variety of methods can be used to test alcohol strength that differ in their accuracy, cost, rapidity and sample availability.
- **The key message for policy and implementation** is that clearly defined and approved methods for measuring alcohol content are needed. Governments, rather than the alcohol industry, should maintain control over these systems.

Since many alcohol excise tax systems rely on determining the strength of alcoholic beverages (for example, for use as the specific tax base or for the classification of tiers), well-defined and approved methods for measuring alcohol strength are required. As there is an inherent incentive to underreport alcohol content due to potential lower tax liabilities, responsibility for defining the alcohol strength should be placed on

the tax administrators and not on the manufacturer or importer. Currently, alcohol strength in beverages can be measured through a variety of methods that differ in their accuracy, cost, rapidity and sample availability.

- **Densitometric analysis** measures the density of the sample by densitometer or pycnometer (6). These methods are among reference methods used in the EU and the United States (7).
- **Near infrared spectroscopy** tests the alcohol strength directly in a near infrared machine. Infrared methods are among those most widely applied for alcohol analysis nowadays. The calibrations are robust, and the method is quick and does not require sample preparation (6).
- **The refractive index method** measures alcohol content using a refractometer by measuring the refractive index of the distillate (8).
- **A biosensor that tests for alcohol content** is considered a method of low stability, reproducibility and accuracy (6, 9), although the technology has improved recently (10).
- **Flow injection analysis** establishes the alcohol content using permeation through a silicon tubular membrane (11). This is a niche technology, and is not routinely applied.
- **The enzymatic method** involves analysis of a diluted sample of the alcoholic beverage using the reaction catalysed by alcohol dehydrogenase (12). This method is considered to be of low stability, reproducibility and accuracy (6, 9).
- **The gas chromatography method** establishes alcohol strength by performing an analysis of a mixture of organic compounds and then testing them using a chromatograph device (6). The method has not gained popularity in commercial laboratories, and has little advantage over densitometric reference methods, given its complexity and labour-intensive nature (13).
- **High performance liquid chromatography** obtains a relatively low sensitivity (6) and has the same limitations as the gas chromatography method, thereby gaining little commercial application.⁴¹

The method chosen by countries depends on the technological advancement of their laboratories, budgetary limitations, the number of samples that need to be measured per day and the level of accuracy required. For instance, in countries with limited budgets for alcohol strength testing (such as low- and middle-income countries), less technologically advanced methods (such as densitometric measurement using

⁴¹ Two additional methods which are not listed here are capillary electrophoresis and Modular Raman spectrometry. Both methods require expensive equipment. Capillary electrophoresis is not used widely (6).

distillation and pycnometry) might be preferred, as these rely more heavily on manual labour and limited infrastructure. The infrared spectroscopic method, on the other hand, can manage large quantities of samples in small amounts of time, but requires a high investment cost. This method might be preferred in countries where labour costs are high, as the method requires little manual labour. Governments may also consider a combination of methods, depending on their country's context.

5.2.3 UNRECORDED ALCOHOL

Key messages

- Unrecorded alcohol refers to alcohol that is consumed as an alcoholic beverage but is not registered in official statistics; it can be legal or illegal.
- Another challenge for policy-makers is measuring and estimating the magnitude of unrecorded alcohol in a country, but a number of established methods are available, as discussed in this manual, to estimate the size of this market.
- **The key message for policy and implementation** is that unrecorded alcohol falls outside the scope of alcohol tax and pricing policies, and poses a challenge for policy-makers when they want to address the population's alcohol consumption. However, several countermeasures are available to policy-makers to address unrecorded alcohol.

5.2.3.1 Definition

Unrecorded alcohol is a common term among alcohol tax and pricing policy practitioners: it refers to alcohol that is consumed as an alcoholic beverage but is not registered in official statistics for production, trade, sales, taxation or consumption in the country where it is consumed (14, 15). This includes home production, cross-border shopping, surrogate alcohol, illegal homemade and artisanal production, and illegal production and smuggling on a commercial (industrial) scale (see section 5.2.3.4 for definitions) (3). Unrecorded alcohol has been recognized as a public health, social and financial problem (16, 17). The implications of its production and use reach far beyond health, however: the legal, agricultural and financial sectors – as well as trade, international relations and the interests of population subgroups, such as women brewers (18, 19) – are also affected.

5.2.3.2 The scope of unrecorded alcohol and illicit alcohol trade

Estimates of the size of the unrecorded and illicit alcohol market depend on the definitions used. Since not only the definitions but also the scope and metrics vary across studies, the comparability of estimates is limited. In most cases, estimates are either reported in litres of pure alcohol or separately by alcohol types (as liquor,

wine, beer and so on). Moreover, estimates focus primarily on unrecorded alcohol, of which the illicit market is a subset. Since illicit alcoholic beverages can fall into more than one category (see section 5.2.3.4), there is also a risk of overestimating the size of the illicit alcohol market due to double-counting.

WHO estimates that in 2019 about 21% of worldwide alcohol consumption was unrecorded (1.2 litres of pure alcohol out of 4.3 litres per adult) (20, 21), and there is a general association with economic development: the higher the economic development of a country, the lower the proportion of unrecorded alcohol consumption (22), although the association is less consistent among low- and lower-middle-income countries. In low-income countries 39.2% of alcohol consumption is estimated to be unrecorded, while the figures are 39.0% in lower-middle-income countries, 18.0% in upper-middle-income countries and 7.0% in high-income countries (20). However, global estimates hide large regional differences. In 2019, for example, higher estimates were reported in the Africa Region (35.6%), the South-East Asia Region (36.8%), compared to the European Region (14.1%) or the Region of the Americas (12.0%) (20).

5.2.3.3 Legal versus illegal unrecorded alcohol

Importantly, the WHO estimates of unrecorded alcohol do not distinguish between illicit trade and legal unrecorded alcohol. Legal unrecorded alcohol includes legal homemade/informally produced alcohol, alcohol intended for industrial or medical uses, legal alcohol obtained through cross-border shopping (which is recorded in a different jurisdiction) and consumption of alcohol by citizens abroad.

Illicit trade in alcohol is of particular interest to governments in the context of alcohol tax policy, given that its most significant consequence is the partial or full evasion of alcohol taxes. Illicit alcohol is a subset of unrecorded alcohol that evades the partial or full payment of excise or other taxes due on the production, trade or sale of alcohol. However, there is no internationally accepted definition of illicit alcohol (23, 24): the definition depends on the framework of analysis used, which could be either legal or economic.

5.2.3.4 Categories of unrecorded alcohol

Table 4.1 provides a summary of the different categories of unrecorded alcohol and their legal status. The relative importance of these categories varies widely between, and sometimes even within, countries. For clarification, the opposite of unrecorded alcohol in this context is “recorded alcohol”, or alcoholic beverages produced, distributed, traded, taxed and sold within a regulatory framework and reflected in official statistics.

Unrecorded alcohol can broadly be grouped into five categories: 1) illegal homemade and/or artisanal alcohol (such as moonshine); 2) legal but unrecorded alcohol

products (such as home-brewed beer); 3) illegal production, which includes illegal importation (such as counterfeit production or smuggling on a commercial scale); 4) illegal surrogate alcohol not officially intended for human consumption (such as mouthwash); and 5) alcohol products that have been recorded but not in the jurisdiction where they are consumed (as with cross-border shopping) (25).

Table 5.1. Categories of unrecorded alcohol

CATEGORY OF UNRECORDED ALCOHOL	UNRECORDED ALCOHOL CATEGORY	LEGAL STATUS	CHARACTERISTICS
Informal production	1) Illegal homemade and/or artisanal alcohol and 2) legal but unrecorded alcohol products	Illegal/legal	<ul style="list-style-type: none"> • Products produced outside the regulatory framework, including home production, that tend to follow cultural/artisanal practices • May be legal or illegal depending on laws governing a particular jurisdiction • Illegal if produced for commercial purposes
Tax evasion by domestic producers	3) Illegal production (which includes illegal importation)	Illegal/illicit	<ul style="list-style-type: none"> • Illegal manufacturing • Underreporting of the volume/type/value of alcohol produced • Mis-declaring the production (e.g. wine is declared for distilling purposes and then sold as wine without paying excise tax) • Falsely declaring export • May or may not involve smuggling • May be classified as tax dilution (partial tax evasion)
Tax evasion by foreign producers		Illegal/illicit	<ul style="list-style-type: none"> • Misrepresentation of cargo content (e.g. volume, type, value of alcohol) to reduce tax liability for both excise tax and import duty • Often involves smuggling and may also be classified as tax dilution (partial tax evasion)
Smuggling by traders		Illegal/illicit	<ul style="list-style-type: none"> • Cross-border alcohol smuggling by traders, which can be large-scale or small-scale, and organized or not organized
Counterfeit production		Illegal/illicit	<ul style="list-style-type: none"> • Fraudulent imitation of legitimate products without the knowledge of or authorization from the brand owner • Can involve refilling empty packages of legitimate products with fake alcohol, watering down wine and/or alcohol, replacing ethanol in liquor with cheaper and dangerous methanol or acetone

CATEGORY OF UNRECORDED ALCOHOL	UNRECORDED ALCOHOL CATEGORY	LEGAL STATUS	CHARACTERISTICS
Surrogate/pseudo-surrogate	4) Illegal surrogate alcohol not officially intended for human consumption	Illegal/illicit	<ul style="list-style-type: none"> • Converting alcohol that is usually intended for industrial or medical purposes (and therefore exempt from excise taxes) into potable liquor for commercial purposes • Includes surrogate alcohol that may be intended for human consumption but is not declared as such to evade taxes, known as pseudo-surrogate alcohol
Legal cross-border trade	5) Alcohol products that have been recorded, but not in the jurisdiction where they are consumed	Legal	<ul style="list-style-type: none"> • Products legally purchased outside and brought into a market for the personal use of the consumer

Sources: Sornpaisarn et al. (3); Rehm et al. (17); Mccall (18); Mkuu et al. (19); van Walbeek & Blecher (23); National Treasury (26).

In many cases a product can fall into more than one category, such as a homemade alcoholic beverage created from smuggled surrogate alcohol. The distinction between illegal homemade artisanal production and illegal production or smuggling on a commercial (industrial) scale is also somewhat fluid. For example, in eastern Africa some artisanal spirits producers have grown into larger enterprises, and their products are likely to be industrially packaged and distributed in the future (27).

Another practice that cuts across multiple categories is smuggling, including alcohol products that are recorded but not in the jurisdiction where they are consumed, and illegal production or smuggling on a commercial (industrial) scale, including counterfeiting (brand fraud). Smuggling is defined as the trade of products across borders through unauthorized routes, or through authorized routes but disguising the true content of the cargo (3). Both producers and traders, domestic or foreign, engage in this activity. For enforcement purposes, smuggling is categorized as large-scale or small-scale. Large-scale smuggling usually involves moving goods long distances, and it is quite organized. In most cases no taxes are paid, even in the country of origin. Smugglers often take advantage of the in-transit status of goods that are being stored in a third country, and divert cargos to a destination country without paying any taxes or import duties. Premium brands are commonly a subject of this type of trade because they offer higher profit, as taxes represent a higher proportion of the retail price of the legal product (23, 26). Smuggling of high-strength alcohol from sugar cane-rich neighbouring countries has also been reported (23).

Domestic producers engage in smuggling if they declare their products for export (products for export do not pay excise tax) yet arrange for them to be smuggled back

into the country. This is called round-tripping (23). In some cases, the goods only leave the country on paper but are sold locally with no excise tax paid. Smugglers often distribute both legal and illegal imports to disguise their illegal activities (26).

5.2.3.5 Countermeasures to unrecorded consumption and illicit trade of alcohol

Several reviews have identified a number of policy measures that can reduce the production and use of unrecorded alcohol (15, 28, 29), such as surveillance and enforcement mechanisms, and offering financial incentives for formalization/registration of unrecorded alcohol supply. Further details on the other strategies can be found in two recent publications (30, 31). Some of these countermeasures are summarized in Table 5.2.

Table 5.2. Examples of countermeasures to the consumption of unrecorded alcohol

COUNTERMEASURE	EXAMPLES OF COUNTERMEASURE USE
Implementing actions that limit illegal trade and counterfeiting and assert greater control over the alcohol market	<ul style="list-style-type: none"> • Introduction of tax stamps, electronic surveillance systems and increased enforcement against illegal activities; registration and licensing; recordkeeping and due diligence requirements; anti-forestalling measures; and addressing free zones and duty-free sales (15, 28)
Promoting the integration of some types of the unrecorded alcohol supply – such as traditional alcoholic beverages – into the commercial sector (32, 33)	<ul style="list-style-type: none"> • Offering financial incentives to home and small-scale artisanal producers for registration and quality control, or establishing a government monopoly that purchases their products or replaces them in the market (34) • Providing alternative employment for some of those engaged in illegal alcohol production and distribution (35) • Government bans on the sale to the public of toxic compounds that could be admixed to alcohol (e.g. methanol), and prohibition of the use of toxic compounds to denature non-beverage alcohol
Reducing cross-border shopping by various means	<ul style="list-style-type: none"> • Limiting imports via duty-free quotas; narrowing the tax and price differences; eliminating tax-free sales; or enforcing stricter controls on sales of unrecorded alcohol in places where such shopping is limited or illegal (see the country example of cross-border shopping in the Nordic countries (see Annex 7.1 in Chapter 7) for more details)

Recommendations include implementing enhanced tax stamps (banderoles), licensing, monitoring systems and electronic surveillance of alcohol movement along the supply chain (including placement of monitoring scanners at production facilities and implementation of tracking and tracing) and increased enforcement. Many of these strategies are also common in approaches to controlling the illicit cigarette market.

5.2.3.6 Potential unintended consequences of certain countermeasures: implications for alcohol tax and pricing policies

Countermeasures to limit unrecorded alcohol consumption make it possible for policy-makers to implement alcohol tax and pricing policies without increasing the consumption of unrecorded alcohol. One of the objectives of tax and pricing policies is to decrease overall consumption of all alcoholic beverages and products, so policy-makers should avoid the imposition of solutions for unrecorded consumption that may, in fact, ultimately result in an increase in overall consumption.

For example, the introduction in 1997 of a new cheap alternative alcohol in the form of fortified fruit wines in Belarus, combined with increased penalties for homebrewing, contributed to the reduction in and – in recent years – the almost complete eradication of home production of alcohol. In the 1990s, home production of alcohol had made up a significant share of unrecorded alcohol in Belarus. Total alcohol consumption in Belarus, however, grew rapidly from the late 1990s to 2010, along with cases of liver cirrhosis and overall mortality, thanks in part to the consumption of cheap fruit wines (36).

An example of unrecorded alcohol use in East Africa also stressed the importance of considering the unintended consequences of policies on unrecorded alcohol regarding issues of gender, women's empowerment and economic opportunities, since women tend to comprise the majority of those making homebrew in this region (19, 27, 37). Another unintended consequence of the disruption of the making of traditional beers or homebrewing – particularly in African countries – involves the industry moving in and competing with lower prices, leading to a paradoxical situation of increased per capita consumption (38).

Therefore, it is important to evaluate the impacts of changes in alcohol tax and pricing policies, including identifying any unexpected consequences, to inform and adjust strategies to counter unrecorded alcohol and illicit trade. Any measure against unrecorded consumption should be weighed against the overall impact on health if it might result in increased overall alcohol consumption.

5.2.3.7 Estimating the size of the unrecorded market

Estimates of the size of the unrecorded alcohol market play an important role in the debate about alcohol tax and pricing policies, because one of the prominent arguments made by the alcohol industry is that higher taxes and prices will drive customers to cheaper unrecorded alcohol instead of reducing alcohol consumption. WHO reports that 144 countries have a system of at least partly tracking informally produced and illicit alcohol (39). The most common methods of tracking are police investigations, followed by complaint systems and case-by-case reporting. Active surveillance and/or tracking by the liquor licensing authority are less common methods.

Tracking illicit alcohol – as a subset of unrecorded alcohol – does not necessarily mean measuring the size of the illicit alcohol market. Estimating the size of the illicit alcohol market is intrinsically challenging because of the clandestine nature of this trade and the inconsistent definitions of illicit alcohol. As a result, many available estimates are based on so-called expert opinions, and must be interpreted with caution since different stakeholders have different incentives when estimating the size of the market. For example, the alcohol industry has an incentive to overstate the level of illicit trade in order to contest tax increases or argue for lower alcohol taxes that they portray as the primary driver of illicit trade (23). Enforcement officers may also want to exaggerate the size of the illicit alcohol market in order to obtain more resources to address the problem, or they may want to play down the importance of this market to demonstrate the effectiveness of their interventions (40).

Research methods for estimating the size of the illicit alcohol market are to some extent similar to those used for the illicit tobacco market (40). These are described in detail in a toolkit on measuring the illicit tobacco market by Tobacconomics (41) and the WHO technical manual on tobacco tax policy and administration (these research methods are described in greater detail in Annex 7.2 in Chapter 7) (2). However, measuring the illicit alcohol market is even more complicated due to the presence of substantial unrecorded consumption, of which illicit alcohol consumption is only a subset. In addition, there are many more avenues by which alcohol can become an illicit product.

This section has highlighted the differences between unrecorded alcohol and illicit trade. The subject is discussed again in Chapter 7, where the use of unrecorded alcohol as an industry argument against alcohol tax increases is specifically dissected.

5.3 INSTITUTIONAL ARRANGEMENTS

Competent authorities that collect taxes effectively in an efficient way share several attributes.

- The organizational structures of these authorities contain clearly defined roles, responsibilities and rules for coordination among relevant bodies.
- Competent authorities collect data regularly, and manage information needed for assessing risks. The key to successful risk management is to share this information among relevant authorities both within a country and between countries.
- Effective and efficient competent authorities also evaluate their performance and accountability regularly, according to key performance indicators, to identify areas for improvement.

These characteristics are discussed in greater detail in the following sections.

5.3.1 CLEARLY DEFINED ROLES AND RESPONSIBILITIES OF COMPETENT AUTHORITIES

Key messages

- Countries organize implementation and enforcement of taxation differently, depending on institutional setup, roles and responsibilities.
- Licensing is often handled by ministries other than finance, such as those of health, agriculture or trade.
- **The key message for policy and implementation** is that institutional arrangements with clearly defined roles and responsibilities, designed to prevent overlaps and voids, contribute to effective and efficient tax administration.

As is the case with other excise taxes (such as tobacco taxes, as outlined in the WHO technical manual on tobacco tax policy and administration (2)), the designation of competent authorities for implementation and enforcement of tax laws – including clear definitions of the boundaries of authority among numerous agencies within a country – is essential for efficient collection of taxes. Areas where different agencies need to cooperate and share data must also be defined. Overlap of activities by different authorities leads to inefficient use of resources, whereas gaps create opportunities for fraud, leading to ineffective tax laws. The importance of clearly defined roles and responsibilities applies not only to tax and customs authorities but also to law enforcement agencies, including police and border control forces.

Implementation and enforcement of taxation are organized differently in various countries. The most common structure separates customs and tax administration. The trend since the 1990s, however, has been to combine these functions into one agency, such as His Majesty's Revenue and Customs in the United Kingdom, Superintendencia Nacional de Aduanas y de Administración Tributaria in Peru (42) and the Administración Federal de Ingresos Públicos in Argentina (43). Several countries have increased coordination between tax and customs authorities by creating a revenue secretariat and implementing systems to share tax records as a single taxpayer account. Coordination between tax policy and tax administration authorities has also increased. This has particular importance to alcohol taxation, given how the complexity in tax policy design has significant implications for tax administration. For example, the use of alcohol content as the tax base creates unique implementation challenges for tax administrators owing to the need to be able to verify alcohol content. Similar challenges exist for the classification of beverages in different categories (see Boxes 5.1 and 5.2 above for examples from Ireland and South Africa).

Some tasks, such as licensing, may be handled by other ministries like the ministries of health, agriculture or trade. For example, in Finland the National Supervisory Authority for Welfare and Health (Valvira) issues various licences for the production, importation, wholesaling and retailing of alcoholic beverages (44, 45). In some federal countries – including Canada, India and the United States – excise taxes, including alcohol taxes, are collected and enforced by local or state tax administrations, often in addition to federal tax administrators collecting a federal excise tax.

Other countries have organized the administration of national taxes by establishing a single unified revenue body. Particularly in larger economies, that body is often responsible for both direct and indirect taxes – including excise taxes – and reports to the ministry of finance. The South African Revenue Service is an example of this structure (see the country example in Annex 5.1). All the functions needed for effective and efficient tax administration are established within these bodies (46).

Many countries, however, have separate bodies for the collection of taxes and customs duties. A 2015 survey of 135 tax administrations worldwide found that only 36% of them were responsible for both tax and customs administration (47). In most countries customs authorities are more likely to collect excise duties on imports, and in many countries value-added tax (VAT) and sales tax are collected jointly with alcohol tax, particularly for imported products. This simplifies controls and creates synergy by unifying common processes and procedures, resulting in cost savings for tax administrations and taxpayers. The involvement of multiple bodies in tax collection requires especially good collaboration and information-sharing to ensure efficient and effective collection of taxes and duties.

5.3.2 EFFECTIVE COORDINATION AMONG RELEVANT BODIES

5.3.2.1 Coordination at the national level

Key messages

- **The key message for policy and implementation** is that coordination among the competent authority, customs departments and those responsible for formulating, analysing and implementing tax policy is crucial to effective alcohol tax administration.
- This includes coordination with law enforcement agencies to monitor alcohol-related activities and enforce tax laws.
- It also includes the coordination and sharing of information (such as the identity of taxpayers and those involved in the trade of alcohol, and information on the manufacturing of goods and the movement of alcoholic beverages) between the relevant authorities.

Coordination among relevant bodies is key to effective alcohol tax administration. This means not only clearly defined roles and responsibilities, as described in the previous section, but also coordination among the competent authority, customs departments and those responsible for formulating, analysing and implementing tax policy. Regardless of the institutional arrangements – whether the responsible parties are all within the ministry of finance or in separate government agencies – all parties need to cooperate and exchange information to optimize tax collection and enforcement of tax policy. In practice, this means that information should be shared between, for example, customs departments, local government units that issue licences and health authorities – particularly those that regulate the sale of alcoholic beverages.

For tax authorities, the most relevant information concerning excise taxes includes the identity of taxpayers and those involved in the production and trade of alcoholic beverages (via import and export data, licences, criminal records, tax returns, bank statements and so on); the category, quantity, value and location of manufactured goods (and possibly alcohol content if the tax structure is based on that); and the movement of those goods until all taxes are paid. Legal impediments to obtaining this information – such as bank secrecy or privacy regulations – should be kept in mind, and, where needed, exceptions for fiscal procedures should be incorporated into law.

Tax authorities should coordinate regularly with law enforcement agencies – such as the police and border control forces, depending on a country's laws – to monitor alcohol-related activities and enforce the tax laws. Often, the competent tax authority and customs department work in close cooperation with anti-fraud teams (see, for example, Customs Administration of the Netherlands (48)). Coordination and sharing of information can be required in legislation or regulations to ensure a streamlined process and avoid confusion. This can be done either on an ad hoc basis or with formal planned exchanges of information and regular meetings. It is recommended that authorities establish at least a legal basis for exchange of or access to information between government bodies to prevent claims during legal procedures that evidence was obtained unlawfully.

Some countries go beyond exchanging information and cooperation. In the Kingdom of the Netherlands, for example, customs authorities not only work for the Ministry of Finance but also carry out non-fiscal tasks for seven other departments, including the Ministry of Agriculture, Nature and Food Quality; the Ministry of Justice and Security; and the Ministry of Foreign Affairs (48). These activities are often based on bilateral agreements between the Ministry of Finance and the other departments. In other countries, such as the United States and Canada, customs and border protection are not part of the ministry of finance; they are part of the Department of Homeland Security in the United States and the Ministry of Public Safety and Emergency Preparedness in Canada. These agencies also carry out many non-fiscal tasks.

5.3.2.2 Coordination across borders

Key messages

- **The key message for policy and implementation** is that regardless of differing institutional arrangements, coordination and cooperation within a country and across jurisdictions are essential to optimize tax collection and enforcement of tax policy.
- Formal cooperation frameworks are necessary to protect a market from cross-border financial crime like money laundering and financial terrorism.
- This coordination can occur on a national, bilateral, regional and international level. It may also include setting up formal agencies that monitor external borders.

Effective approaches to control smuggling of alcohol require interventions at the borders of jurisdictions and must therefore involve the border agencies. However, with the globalization of trade, there is a need for close coordination not only between tax and border control authorities but also between different jurisdictions. Recent cases have demonstrated that an absence of formal cooperation frameworks may expose a market to financial crime, including money laundering and financing of terrorism (49).

Accession to international cooperation agreements such as the Organisation for Economic Co-operation and Development (OECD) multilateral Convention on Mutual Administrative Assistance in Tax Matters and other regional arrangements will contribute greatly to the effective exchange of information and cooperation among enforcement agencies. An effective exchange of market data and information from participating jurisdictions can prevent potential cross-border crimes and loss of domestic revenue. International cooperation reinforces domestic measures to stop illicit trade and raise much-needed revenues.

The Revised Kyoto Convention of 2010, promulgated by the WCO, recommends that jurisdictions entering into bilateral agreements require the other jurisdiction to provide pre-arrival information on goods bound for their customs territory. Some economic blocs have also established harmonized legislation applying to all their member countries to ensure efficient administrative cooperation on tax matters (50). Coordination can also include the establishment of a special agency to ensure the safety and proper functioning of external borders, such as the European Border and Coast Guard Agency, also known as Frontex. In some Frontex-led operations, EU and non-EU countries cooperate with international organizations to target cross-border crime, including trade of alcohol, cigarettes and drugs (51).

Criminals who engage in illicit trade of alcoholic beverages are usually also engaged in related criminal activities such as bribery, money laundering, corruption, obstruction of justice and even financing of terrorist organizations (52). A number of international treaties provide the legal framework for addressing such conduct through mechanisms that tackle illicit trade from a criminal justice perspective, such as the United Nations Convention against Transnational Organized Crime, the United Nations Convention against Corruption and the International Convention for the Suppression of the Financing of Terrorism. Table 5.3 summarizes the types of structures available for such coordination.

Table 5.3. Structures for coordinating illicit trade mechanisms

TYPE OF COORDINATION	BASIS	INVOLVED ACTORS
National coordination	Agreements with a basis in law between national agencies	Customs authorities, ministries of finance and those responsible for formulating, analysing and implementing tax policy; law enforcement agencies, such as police and border control forces; and anti-fraud teams
	Agreements between ministries or a basis in law or regulation on the establishment of high-level committees	Ministries of health, finance, revenue, justice, transport and (sometimes) education, as well as enforcement entities such as customs authorities and police
Bilateral coordination	Bilateral cooperation agreements	National governments
Regional coordination	Regional arrangements such as: <ul style="list-style-type: none"> • harmonized legislation applying to all member countries of an economic bloc to ensure efficient administrative cooperation on tax matters • regulations to establish a special agency to ensure the safety and functioning of external borders 	In the EU, for example: EU Member States, the European Border and Coast Guard Agency (Frontex), customs authorities, and law and border enforcement agencies
International coordination	International treaties or conventions such as: <ul style="list-style-type: none"> • OECD multilateral Convention on Mutual Administrative Assistance in Tax Matters • United Nations Convention against Transnational Organized Crime • United Nations Convention against Corruption • International Convention for the Suppression of the Financing of Terrorism 	Parties to international treaties and conventions; law and border enforcement agencies

5.3.3 EVALUATION OF PERFORMANCE AND ACCOUNTABILITY

Key messages

- **The key message for policy and implementation** is that key strategic indicators are useful for assessing the performance of a competent authority.
- Performance indicators can include measures such as net revenue collected, total expenditure compared with budgeted amounts, the ratio of costs to collection, measures of filing and payment compliance, and taxpayer satisfaction (53).

Several international organizations, including the International Monetary Fund, the World Bank, the Inter-American Development Bank and the OECD have developed tools to evaluate tax and customs with key performance indicators. This section provides information on some of the indicators that are particularly useful for measuring performance related to alcohol taxes, including the cost-of-collection ratio, tax gap analysis and tax revenue targets.

5.3.3.1 Cost-of-collection ratio

The cost-of-collection ratio is the total expenditure as a percentage of the total net taxes collected. It is often used as a measure of efficiency and effectiveness of competent authorities. An annual International Monetary Fund survey shows that the cost-of-collection ratio varies between countries at different income levels (47). These variances may arise due to differences between tax systems, economic situations and compliance levels. The cost-of-collection ratio is significantly higher in low-income and lower-middle-income countries than in upper-middle-income and high-income countries for domestic taxes (including personal and corporate income taxes, VAT and excise on domestic production; excluding import duties and VAT on imports). This implies that upper-middle-income and high-income countries have more efficient and/or effective collection systems.

The cost-of-collection ratio may fall short when taxes are imposed with a broader health objective, such as excise taxes on alcoholic beverages. The measure does not capture future savings on government health-care expenditure due to improved health outcomes resulting from these taxes.

5.3.3.2 Tax gap analysis

Tax gap analysis is another method of determining how effectively taxes on alcoholic beverages are collected. The tax gap is the difference between the tax due and the tax that is collected. For example, the theoretical tax due under an ad valorem tax on the retail price of beer would be the average price of various packages multiplied

by the number of packages sold (estimated from household expenditure surveys, for example) multiplied by the tax rate. This outcome can then be compared to the actual revenue collected (54).

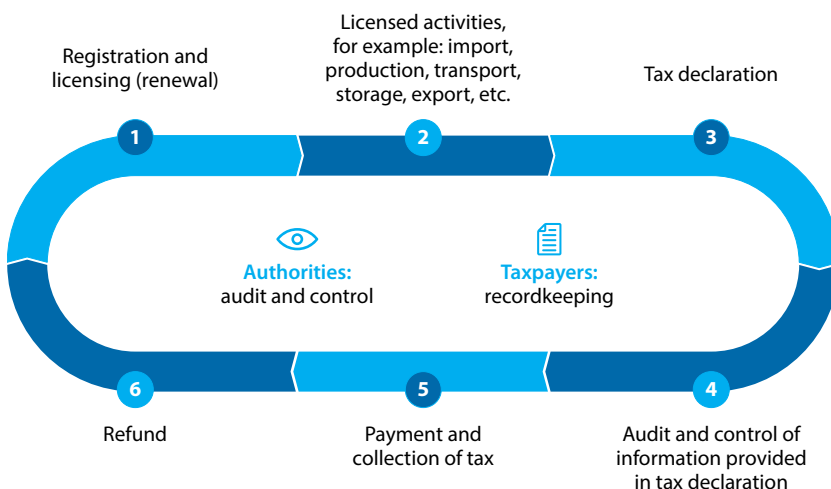
5.3.3.3 Tax revenue target

The performance of a competent authority can also be evaluated by determining whether the tax revenue target has been met for a given tax period. One potential weakness of this approach is that revenue forecasts are often used as targets, which requires high-quality forecasting abilities. Forecast revenue could include assumptions such as economic growth, inflation and amount collected. Competent authorities should monitor the actual collections in comparison with the forecast revenue. Another potential weakness is that a revenue target could provide an incentive for some customs departments and competent authorities simply to aim to reach the target amount, rather than making efforts to collect the maximum amount possible with the available resources.

5.4 THE TAX COMPLIANCE CYCLE

For any tax, there are associated compliance, control and enforcement processes. The compliance cycle usually includes registration and licensing, tax declarations, recordkeeping, storage in warehouses, duty suspension, collection of tax and tax refunds. Fig. 5.2 illustrates the typical stages of the tax compliance cycle. This section discusses the various components of the tax compliance cycle.

Fig. 5.2. The tax compliance cycle



Source: WHO (2).

5.4.1 REGISTRATION AND LICENSING

Key messages

- The main objective of licensing is to identify and regulate various components of the alcoholic beverage supply chain.
- Licensing can be either generalist or targeted; each has its own strengths and disadvantages.
- **The key message for policy and implementation** is that proportionality should be kept in mind when the licensing system is designed and implemented: the cost should be proportionate to the potential impact. Stringency and the need for more information and enforcement capacity will translate into higher costs.

Along with regulating and ensuring the integrity of those who deal with controlled substances or goods, the main **objective of licensing** is to regulate the supply chain, including manufacturing and the import and export of alcohol products and of manufacturing equipment used for production of alcohol products. Furthermore, licensing may also include people involved in retailing, transporting, wholesaling, brokering, warehousing and distribution of alcohol products or manufacturing equipment. Licensing is a powerful tool for obtaining more information and securing the supply chain of alcoholic beverages. Licensees should maintain complete and accurate records of all relevant transactions in which they engage.

Relevant **information** that may be requested from the applicant for the licence includes:

- relevant identity information on the applicant;
- the business location of the manufacturing unit or warehouse, and production capacity;
- a detailed list of products and equipment used;
- a description of where the manufacturing equipment will be installed and used;
- documentation on or a declaration of any criminal records;
- information on bank accounts to be used for transactions and payments; and
- a description of intended use and the intended market of sale of the products.

To make it easier for authorities to collect all the information they need, rules of confidentiality could be exempted in the licensing process.

Licences can be **general** – covering all activities requiring a licence – or issued for each activity separately, such as **specific** licences for manufacturing, importing and retail. A general licence is less burdensome for the licensing authority,

whereas licences for each type of activity offer greater control but at the cost of more administration (55). However, licences at the manufacturing or importing level may differ substantially in their purpose from those at retail levels. Furthermore, manufacturing and importing are most often in the purview of national authorities, while retail licences may be delegated to local or provincial authorities, and the policy and regulatory environment may vary between local and provincial jurisdictions.

The **cost** of implementing the licensing system should be proportionate to the potential **impact** of the system. Not only should the type of licence be taken into consideration but the process and information needed to obtain a licence should also be carefully considered to ensure proportionality. The more stringent the process is – in terms of the information required and the obligations the system imposes on licensees – the more burdensome the regime will be on both businesses and the authorities who must administer and enforce it. The more information collected, the higher the compliance and administrative burden. It is recommended that authorities balance the added value of the information with the additional compliance, administrative and/or enforcement burden.

The level of stringency should be decided with consideration of factors such as the level of risk of the activity and the availability of enforcement capacity. A more stringent regime might be justifiable for activities that pose a higher risk for the government in terms of potential loss of tax revenues – such as the import, production and handling of excisable products on which the excise taxes have not yet been paid. Authorities could consider setting licence fees at a level high enough to cover the costs of administering and enforcing the system. Wholesalers, distributors and retailers could also be required to obtain a licence before they can engage in the trade of those products. This would enable the competent authority to require reports on, for example, transactions relating to the purchase and sale of products. Moreover, it would allow the authorities to complete the audit trail of the entire supply chain and to obtain data that will help tax and health policy-makers monitor products properly and effectively.

Licences are issued by different agencies across the world. Operators need to obtain approval of the layout of manufacturing and warehousing facilities before they can operate. In addition, they must demonstrate how they will comply with other laws and regulations – for example, by showing the design of product packaging. The factory location must be identified before manufacturers can obtain a licence. Licences can be a source of useful information if authorities establish the details applicants must supply in order to obtain the licence. An effective licensing regime collecting information to establish both the identity and characteristics of applicants by requiring criminal records on relevant offences, such as previous non-compliance with alcohol licences or fraud, is recommended.

5.4.1.1 Licensing requisites

It is important to consider the licensing requisites for the collection of alcohol taxes. In general, these refer to licensing of alcohol manufacturing, import and distribution, since these are the points in the supply chain where excise taxes are generally collected, or that are vulnerable to tax administration challenges. Based on case studies – including experiences from managing bonded warehouses where the value of merchandise or suspended duties or taxes is high – the following kinds of information could be required to obtain a licence for producers, warehouses and distributors of alcoholic beverages:

- certification of safety of installations, and perimeter security for production and storage (may include closed-circuit television or surveillance cameras access for tax administration);
- certification of financial solvency;
- detailed online, real-time inventory of products and main raw materials, accessible by tax administration;
- electronic accounting systems;
- detailed lists of owners and managers;
- banking and other financial records;
- periodic electronic reports of transactions for alcoholic beverages;
- anytime right of entry for tax administration authorities to take inventories;
- mandatory electronic tax returns and payments;
- mandatory prior-to-arrival customs declarations for products;
- declarations of compliance with the tax stamp or fiscal marking system (if applicable);
- for those involved in import or export, authorized economic operator certification;
- proof of compliance with the bond or guarantee regime; and
- agreement to finance reasonable costs of inspections and tracking and tracing.

Certification as an authorized economic operator (AEO) could also be requested as part of the licensing process. For many years (in some cases even since the 1970s), customs administrations have increasingly been involved in the security of the international trade supply chain. More recently, customs departments have developed security programmes in a global context. The AEO certification is part of these programmes, and in 2005 the WCO adopted the SAFE Framework of Standards (58), which defines an AEO as a party involved in the international movement of goods – in whatever function – that has been approved by, or on behalf of, a national customs administration as complying with WCO or equivalent supply chain security

standards. AEOs can include manufacturers, importers, exporters, brokers, carriers, consolidators, intermediaries, ports, airports, terminal operators, integrated operators, warehousemen and distributors. A number of traders have been required to make substantial investments in order to obtain AEO status, and must continue to invest to maintain that status. The AEO programme is also recognized by the Trade Facilitation Agreement, a multilateral agreement signed by 174 countries (57).

Some regional blocs have further specified the standards for AEOs, and provide clear and well-structured information on their websites to guide and encourage operators to apply for AEO status. A good example of this practice is the website of the Revenue Commissioners of Ireland, which contains the information shown in Box 5.3.

Box 5.3. AEO description from Ireland's Revenue website

What are AEOs?

AEO status is a certified standard authorization issued by customs administrations in the EU. It certifies that an economic operator has met certain standards in relation to:

- safety and security,
- systems to manage commercial records,
- compliance with customs rules,
- financial solvency, and
- practical standards of competence or professional qualifications.

This is primarily a trade facilitation measure that recognizes reliable operators and encourages best practices in the international supply chain. As an AEO, an operator could benefit from:

- recognition worldwide as a safe, secure and compliant business partner in international trade;
- lower risk scores in risk analysis systems when profiling;
- priority treatment if physical controls are conducted;
- mutual recognition of AEO programmes under Joint Customs Cooperation Agreements, which could result in faster movement of goods through third-country borders;
- reduced data sets for entry and exit summary declarations (this applies only to AEO safety and security);
- easier access to simplified procedures; and
- reduction or waiver of comprehensive guarantees.

The conditions for AEO status apply to all businesses regardless of size. Manufacturers, exporters, freight forwarders, warehouse keepers, clearance agents, carriers and importers may all apply for AEO status.

Source: Revenue (58).

5.4.2 DATA COLLECTION, DECLARATIONS AND ACCOUNTING

Key messages

- Automated and electronic systems that record transactions and inventories of supply chain materials can ease the burdens and costs of compliance. These can be supplemented with a good information technology system and electronic invoicing.
- **The key message for policy and implementation** is that high-quality and reliable data are necessary for effective risk analysis.

The effectiveness of risk analysis depends on the **quality and reliability of the available data**. While this is a challenge in many countries, use of electronic systems to collect and manage data is increasing among most competent authorities. The introduction of VAT in many countries around the world has greatly improved the availability of data that can be used for alcohol tax analysis, since reporting is done throughout the supply chain. Most countries applying excise duties also have a VAT system in place.

Ideally, all entities involved in the alcoholic beverage manufacturing, supply and distribution chains should be licensed and required to record every transaction that occurs. As this might be burdensome for both tax authorities and taxpayers, use of **automated and electronic systems** is recommended in order to decrease the costs of compliance. An accurate inventory system for all raw materials, machinery, goods in process and finished products can be required. It is even more important to have good recordkeeping of the required data. As the volume of reported data increases, a good information technology (IT) system will be needed. Use of IT for periodic tax declarations, accounting, inventory and financial data is critical for obtaining accurate information and decreasing costs for the entire reporting system.

An emerging trend is the use of electronic invoices, issued by traders, as part of online real-time information for tax administration. Countries generally start by using electronic invoices at public utility companies and then later expand the use to large companies. Electronic invoices minimize the use of paper, contribute to automated recordkeeping and give accurate and timely information about transactions for tax administration. Several countries began using electronic invoices for

companies on a voluntary basis and later made their use mandatory, especially for large companies with a high number of transactions. Electronic invoices have been implemented successfully in EU countries and some countries in Latin America, including Ecuador (59).

To **verify** that information is accurate, competent authorities could systematically **cross-check** declared information against third-party information (such as data from banks, financial institutions and employers) or match the data with the information in registers of other government agencies. The processes of cross-checking and data-matching could also be automated to minimize the administrative burden (60).

5.4.3 RECORDKEEPING

Key message

- **The key message for policy and implementation** is that impeccable record-keeping of entities engaged in the alcoholic beverage supply chain, preferably in electronic form, is necessary to ensure compliance and that no unrecorded or illicit production is occurring.

Countries should require, as appropriate, that all people or entities engaged in the supply chain and manufacturing of equipment keep complete, detailed and accurate records of all relevant transactions and details of materials used in the production of alcoholic beverages, to **monitor compliance**. Relevant information includes market volumes, trends and forecasts of products, as well as quantities of products and manufacturing equipment kept in stock, in tax and customs warehouses, and in transit, transshipment and under duty suspension. This information should be required from the people and entities engaged in the supply chain, and should be submitted to the competent authority on a regular basis, as provided for in law. The competent authority can use the submitted information to monitor compliance with alcohol regulations and payment of taxes. A registry with this level of detail can realistically be kept only in electronic form.

Records must provide full accountability for materials used in the production of alcoholic beverages. The intention is that tax authorities and manufacturers should be able to reconcile the production quantities with the inputs used in production – thereby providing confidence that no **unrecorded or illicit production** has occurred. Obligations should also be imposed on suppliers of key inputs to show that supply is commensurate with demand (55).

5.4.4 WAREHOUSING, STORAGE AND DISTRIBUTION

Key messages

- **The key message for policy and implementation** is that a key component of an efficient tax administration system is the authorization process (including licensing and physical checks) of the warehousing, storage and distribution of alcoholic beverages, as this allows authorities to control and check whether taxes have been paid.
- Under certain circumstances, products may be under duty suspension. The products should be kept separately from finished alcoholic beverages on which excise taxes need to be paid.

Countries should endeavour to **license** those involved in any wholesaling, brokering, warehousing or distribution of alcoholic beverages or manufacturing equipment. This will allow the authorities to carry out controls in production and storage facilities to ensure that taxes are paid (61). The approval process to obtain an authorization could include an evaluation of the layout of the plant or warehouse, the machinery that will be used and the flow of production, warehousing and shipping, including the points of entry and exit of raw materials and finished products.

From time to time, the competent authority should conduct a **physical inventory** of the goods contained in the warehouse to check whether all documentation was duly prepared and approved, and to determine the accuracy and completeness of the records kept. If the jurisdiction requires tax stamps to be placed on alcoholic beverages, only products with the proper stamps affixed can be withdrawn.

Generally, alcoholic beverages for which the required taxes have not been paid and, if required, fiscal markings have not been affixed should not be allowed into warehouses. For practical reasons, many countries allow **suspension of excise taxes**, meaning that prior authorized people can produce, send, receive and store alcoholic beverages on which the excise tax has not yet been paid. This may include goods that are excisable in their current form but are not yet a final product that may be excisable in another category. For example, a high-alcohol spirit in a bulk container that will be diluted prior to bottling may attract a different excise tax once diluted and bottled. The duties might be suspended on the bulk form and only levied on the product's final form. The relevant authorities could also require that products on which the taxes have been paid should not be stored in the same areas as the products under duty suspension. Obviously, products under suspension of payment of excise taxes are at high risk, which could justify stricter requirements for production, trade, storage and handling.

Different **licences for products under duty suspension** could also be considered.

This would make enforcement easier and less burdensome for both authorities and operators. In general, it is recommended that the handling of excise goods under suspension of duties is allowed only if strict criteria are met. Such criteria could include pre-authorization visits, adequate stock control measures, checking the origin of excise products and the entire production process, and coding and marking products. In principle, the movements of alcoholic beverages should also be covered by the tracking and tracing system. Considering the high risk related to these products, additional monitoring could be considered appropriate, such as a computerized system monitoring the movements of excise goods under suspension of excise tax. In the design of such a system, close attention should be paid to customs procedures for import and export, to ensure alignment and avoid a vacuum in monitoring.

An example of a computerized system is the EU's Excise Movement and Control System, which follows the movement of all excisable products for which excise taxes have not been paid. The system records the movement in real time, and is thereby an important tool for combating fraud. In addition, this system is indispensable for the exchange of information and cooperation between the relevant authorities of EU Member States (62). Finally, authorization is required before alcoholic beverages can be produced, imported or stored under suspension of excise taxes (63). A similar system, the Electronic Cargo Tracking System was launched in 2010 in Kenya (64).

5.4.5 COLLECTION OF TAXES

Key messages

- Taxes should be collected near the point of production or import to limit the number of taxpayers and, therefore, the cost of collection.
- Using electronic payments and payments at fixed intervals can also ease the cost and enforcement of tax collection, and increase compliance.
- **The key message for policy and implementation** is that countries should implement monitoring systems to ensure compliance at points of production. Such systems range in strength and technical capacity, but countries should steer away from industry self-declaration as a form of monitoring.

To reduce the complexity of tax collection systems, it is recommended that countries impose excise taxes at the **point of manufacture, import or release** from storage or production warehouses for consumption, as is common practice. Collecting taxes at this level of the supply chain greatly limits the number of taxpayers and thus the resources needed to control them. Encouraging taxpayers to use electronic payment methods can also increase the chances of collecting all taxes.

The same applies to requiring guarantees for certain high-risk activities, such as the handling of goods under duty suspension. Many countries decide on a case-by-case basis the level of the guarantee, depending on the situation of the requester and the level of risk (quantity or value and excise taxes potentially due) that the regular business activities represent in a given time frame. Some countries allow a reduction of guarantees for operators with a track record of good compliance. It should be noted that a guarantee is not a limitation of the liability; taxpayers can still be requested and liable to pay an amount far above the level of the guarantee.

Tax payments should be required by law to be remitted at **fixed intervals after sales or on a fixed date each month** (61). Many countries have a specialized collection enforcement unit that works full time on the collection of taxes, such as *Policía Fiscal y Aduanera* in Colombia (64). It is important to have a payment control that can act immediately when non-compliance occurs, by sending a message and phone call of late declaration or late payment to the taxpayer. This increases the likelihood of keeping taxpayers compliant. If non-declaration or non-payment persists, the bond or guarantee could be executed.

Another reason for collecting excise taxes near the point of production or import is that quantities can be monitored more effectively at these points. Various options for **monitoring the supply chain of alcoholic beverages** are available. The decision about what kind of monitoring system to use depends on the country's financial, technical and human resources. The weakest form of monitoring is industry self-declaration. Activities to verify compliance and ensure the collection of the full amount of taxes due can include physical checks, audits, cross-checking of declared information with third-party data and inspections of administration and recordkeeping.

In general, in countries with weak administration systems, enforced compliance is carried out by imposing **physical control** over the production or manufacturing process. The cost of physical control increases when there is a potential for fraud by excise officers. However, fraud can be diminished significantly when excise officers are rotated frequently among different locations, and supervisors make surprise visits. Some countries have posted tax administration staff at production facilities to monitor production and removals. For example, the Government of Trinidad and Tobago ensures control of the storage of taxed and untaxed products on the premises of manufacturers via the onsite presence of an officer of the Customs and Excise Division of the Ministry of Finance (64).

A better option is to **monitor production remotely**. The competent authority can require installation of closed-circuit television cameras in strategic places throughout the manufacturing and warehousing facilities. With these, the authority can establish a central command post from which the facilities and activities can be monitored and documented continuously. In addition, from time to time the

competent authority can carry out physical inventory controls and – if electronic invoices are implemented – cross-checking between invoices and declared inventory. This is also an effective way to prevent collusion between staff of a competent authority and manufacturers or importers.

The collection process must also be supported by **IT systems**. These must facilitate transparency and accuracy to ensure a safe process for the flow of payments from taxpayers to the treasury. Countries have implemented automated electronic systems for tax payments linked to each declaration, for both domestic and imported goods. It is vital for tax administrations to have a comprehensive agreement with the banking system in order to obtain lower transaction costs, if applicable. Some countries have implemented a state payment web portal that allows citizens to pay their taxes and other fees – such as county fees, fees for car permits and licences, and agricultural, health and environmental fees – online.

5.4.6 TAX REFUNDS

Key messages

- Tax refunds may be necessary when alcoholic beverages are exported.
- **The key message for policy and implementation** is that tax refunds may be in the form of monthly refunds or a suspension of taxes through the whole supply chain.

Refunds for VAT, excise taxes and import duties are a common process, under the principle that taxes are not exported. Frequency and methods of refund vary by country. It is common to have monthly refunds (if there are exports during the period), and the reimbursements may be sent directly to the exporter or reserved as a credit to pay other taxes. An alternative used by some countries that have a high volume of exports is a so-called zero rate, or suspension, meaning that indirect taxes (VAT, excise taxes and import duties) are suspended for the whole chain – from import of raw materials to production and packing until export. This regime requires a special licensing process. Since the alcohol industry has an export component, the refund process for this sector requires special attention for tax administration.

5.5 CONTROL AND ENFORCEMENT

Control and enforcement are the main functions of tax administration. In fact, most tax laws include the objectives “to control and enforce tax compliance” and, for customs, “to control and enforce tax and duty payments at the border” or similar phrases. Efficient and effective competent authorities often have a strategic plan to

ensure compliance, a risk-based approach to identify the problematic points in the chain, and the ability to direct resources accordingly to high-risk or high-value areas.

Tasks that can play a role in control and enforcement include controlling the registration and licensing process, due diligence, verifying declarations and collection of taxes. Production and distribution controls – including tracking and tracing, fiscal markings, audits, and import and export controls – all play a role in control and enforcement.

This section describes the main activities for improving control and enforcement, focusing on the alcoholic beverage supply chain, and discusses the procedures and penalties that can be enacted once illicit trade has been detected. The components of efficient control and enforcement introduced briefly in this section are generalist principles that apply to other excisable goods, such as tobacco, so this manual also refers the reader to the complementary 2021 WHO technical manual on tobacco tax policy and administration (2, *Chapter 3*) for a more detailed discussion of these key components.

5.5.1 CONTROL AND ENFORCEMENT PLANNING

Key message

- **The key message for policy and implementation** is that risk analysis is important in identifying the points of intervention that have higher probabilities of non-compliance. A risk-based approach with targeted interventions is necessary for efficient use of resources to ensure the effectiveness of tax collection.

Countries should develop a strategic plan, often based on data analysis and behavioural insights, for how to deal with tax non-compliance. One such plan may be to focus on prevention of non-compliance. Examples of this approach can be found in the strategic plans of His Majesty's Revenue and Customs in the United Kingdom and the United States Internal Revenue Service (65, 66).

A strategic plan needs to be followed by a plan to enforce and control. One of the ways to implement such a plan is to use a risk-based approach, focusing on interventions for those who have a higher probability of non-compliance. Tax risk management is a key element of risk-based management as a control strategy. This is the process of analysing risks and deciding on the best way to manage an identified risk, and it can draw on a variety of data sources. This approach is used, for example, in the United Nations Office on Drugs and Crime and the WCO Container Control Programme. For more information, see the WHO technical manual on tobacco tax policy and administration (2, *section 3.4.1*).

5.5.2 LICENSING AND DUE DILIGENCE

Key message

- **The key message for policy and implementation** is that licensing assists with identifying and controlling legitimate operators. In addition, the data collected from licensing can serve as a basis for audits. Licences should be controlled and updated regularly to ensure their validity.

Licensing systems should be properly controlled, and should provide timely and accurate data. The regulations around licensing should be stringent enough to ensure adherence to licensing terms. In addition, a licensing authority (or authorities) should be appointed to handle the issue, renewal, suspension, revoking and/or cancellation of licences. A country should make it illegal to purchase from an unlicensed supplier or sell to an unlicensed purchaser, and the onus should be on the licensee to ensure that this requirement is met. A licensing requirement for alcohol manufacturing equipment makes it easier to stop illegal manufacturing of alcoholic beverages. For more information, see the WHO technical manual on tobacco tax policy and administration (2, *section 3.4.3*).

5.5.3 FISCAL MARKINGS (SUCH AS TAX STAMPS)

Key message

- **The key message for policy and implementation** is that the use of fiscal markings is an appropriate tool for increasing compliance with tax laws, and it is useful for distinguishing between genuine and illicit alcoholic beverages.

Fiscal markings affixed to alcoholic bottles or cans, such as tax stamps, are an effective tool for ensuring compliance with tax laws and collection of tax revenue. They come in a range of forms, and are usually purchased by the producer and importer. The International Organization for Standardization published an excise tax stamp standard, which can be used to assist authorities with enhancing compliance. The publication provides authorities with a range of options rather than being prescriptive (67). For more detail, see the WHO technical manual on tobacco tax policy and administration (2, *section 3.4.4*).

5.5.4 TRACKING AND TRACING

Key message

- **The key message for policy and implementation** is that a tracking and tracing system helps authorities to determine the origin of alcohol products and the point of diversion, if applicable. In addition, these systems assist with monitoring and controlling the movement of alcohol products and establishing their legal status.

Tracking is the process that monitors where a product is at all times, while also creating a time and location record for all movements. Tracing is the ability to identify the past locations of a product, so that the product's route can be followed back to its origin (64). In other words, traceability is “the ability to trace the history, application or location of an object” (68).

A tracking and tracing system assists authorities in determining the origin of products, as well as monitoring and controlling the movement of products and their legal status. The objective of a tracking and tracing system is to enable authorities to have information on all transactions throughout the entire supply chain until taxes are paid or other obligations are discharged. In addition, traceability is used to improve the supply chain function (as in the case of parcel services) and for product safety reasons (to manage potential product recalls and for regulatory reasons).

Tracking and tracing systems are key to monitoring and controlling the movement of alcoholic beverages and their legal status. An effective tracking and tracing system has certain characteristics. These include the ability to identify and authenticate products individually, collect specific information on the products, monitor the supply chain and enforce the law when non-compliance is detected. Other components of an effective system include a serialized unique identification marking, a data carrier, an ability to trace the pallets, recordkeeping of events along the supply chain and use of international standards for key information encoded in the data carrier. Implementing a tracking and tracing process might be lengthy and may meet several hurdles, but the costs are unequivocally justified in government tax revenues that are not lost due to evasion. For more detail, see the WHO technical manual on tobacco tax policy and administration (2, *section 3.4.5*).

Examples of tracking and tracing systems implementation in Ecuador, Kenya and the Russian Federation are detailed in Annexes 5.3, 5.4 and 5.5.

5.5.5 ANTI-FORESTALLING

Key message

- **The key message for policy and implementation** is that forestalling reduces and delays the effectiveness of tax measures, but anti-forestalling measures implemented by governments can counteract the impact.

“Forestalling” is a term that describes increases in production or stock of products in anticipation of a tax increase (61). Other terms referring to this practice include “stockpiling” and “front-loading”. Forestalling occurs when manufacturers or importers increase their tax-paid stock or oversupply the market by increasing production or imports in order to pay the earlier lower rate. It reduces and delays the effectiveness of tax measures. The effective starting date of the new tax rate will be delayed, revenues will be lower and possible impacts on prices and thus consumer behaviour will also be postponed.

A legal basis must exist for anti-forestalling measures; otherwise, the government cannot prevent the industry forestalling. Legal measures (see the WHO technical manual on tobacco tax policy and administration (2, *section 3.4.6*)) include (69, 70):

- limiting the amount of alcoholic beverages that can be released subject to the old tax rate, and levying the new tax on the products exceeding that limit;
- levying the new tax rate on all goods that are still in stock and not yet supplied to the final consumer (for example, via floor stock taxes);
- limiting the number of tax stamps issued at the rate that was in effect before the increase, or limiting the time that products with a tax stamp with the old rate can be sold; and
- requiring producers and importers to buy new tax stamps annually or after a tax increase.

Floor stock taxes applied in the United States are one example of an anti-forestalling measure. A floor stock tax is a one-time excise tax placed on a commodity undergoing a tax increase. For example, when the state of Connecticut increased the tax on alcoholic beverages other than beer by 10% in October 2019, it simultaneously applied a floor stock tax on the inventory of those beverages kept by retailers. The floor stock tax applied to inventory kept in both on-trade (restaurants, taverns, bars, hotels) and off-trade (grocery stores, package stores) premises, and was equal to the difference between the new excise tax rate and excise tax rate immediately prior to the increase (71).

5.5.6 ADDITIONAL NATIONAL AUDITS AND CONTROLS

Key message

- **The key message for policy and implementation** is that compliance can be improved using several different types of periodic audits and controls.

In addition to the measures described above, several periodic audits and controls could be implemented to increase compliance with tax laws. The most common audits and controls are the following.

A **cost audit** can be used to verify the accuracy of the cost account records. The cost audit method is used to calculate the expected VAT and alcohol tax collection by simulating the intermediate and final cost of alcohol. It starts with inventories of raw materials and estimates added values and final costs, then matches the results with real data collection from the alcohol supply chain. For example, Australia requires significant recordkeeping to account for the costs and inputs in the production process (72).

A **transfer pricing audit** can be used to ensure that companies pay their fair share of tax: prices of transactions between related companies should be assessed, and when prices are not in line with market conditions they should be corrected. Companies that operate at the international level (transnational companies), including many alcohol companies, can manipulate import or export prices of merchandise or raw material to related companies or branches in other countries – with the objective of lowering profits in countries with higher tax rates – and can transfer those profits to countries with lower taxes.

Price and market monitoring supplies the background data required to assess compliance. Retail price surveys can provide information about variance from the market price in certain locations, highlighting areas of potential tax avoidance or illicit trade. Physical control of such locations requires rapid response teams. To monitor the compliance of taxpayers, the competent authority needs to understand the alcoholic beverage market; it must have information on brands, market segments and prices of products. This information enables authorities to estimate the impact of tax and price changes on consumer behaviour and revenue. Market data can be analysed as part of risk management and anti-fraud analysis to determine which taxpayers to investigate for non-compliance and when to do so. Sales data can be triangulated to validate other data sources, such as household surveys on prevalence. Market data and trends are also useful indicators for determining whether there is a case of oversupplying.

Consumer control – including involving the public via awareness campaigns – has also been shown to be effective. Consumers have the right to be assured that the

products available in the market are authentic and come from legitimate sources. Thus, it is in consumers' interest to understand and be able to verify that they are buying genuine products. The features of the fiscal markings should help consumers distinguish between genuine and illicit products. Some countries, including Ecuador (see Annex 5.3), Kenya (see Annex 5.4) and the Russian Federation (see Annex 5.5), allow consumers to use public smartphone applications to allow anyone to check both covert and overt features to ensure the authenticity of products and to report any alcoholic beverage with incorrect markings.

Cross-check controls should be considered by competent authorities, using multiple sources to obtain market data and determine whether they are consistent with tax declarations. VAT declarations can be used to verify that suppliers and purchasers of raw materials and final products are reporting the same amounts. Bank information can be used to verify both sides of transactions along the supply chain. Any discrepancy can alert the competent authority to conduct further investigation into possible illicit trade or tax evasion.

5.5.7 IMPORT AND EXPORT CONTROLS

Key message

- **The key message for policy and implementation** is that only duly licensed people and entities should be allowed to import and export alcoholic beverages and manufacturing equipment, to ensure the control of import and export.

Import and export controls of alcoholic beverages and manufacturing equipment are key to curbing illicit trade and tax evasion. Countries should allow import and export of alcoholic beverages and manufacturing equipment only by duly licensed people or legal entities. A well-known strategy used by fraudsters is to declare products for export so that no duties are due to the country of export. These products are subsequently transported through other countries, using the in-transit regime that allows temporary suspension of duties until the goods arrive at their final destination. Before arriving at this end-point – where the excise duties would be due – however, the goods disappear or are lost while being diverted to the illegal supply chain. The goods may never leave the country, or may be smuggled back into the country from which they were exported without declaring or paying duties. This risk of loss of revenue can be mitigated by requiring a guarantee or bond, to be released only if payment of duties in another country is proved.

A range of import and export controls are available, including use of fiscal markings, international communication channels between country authorities, a good IT system for electronic processing, non-invasive detection equipment at customs

posts (such as X-ray scanners or detection dogs) and physical control measures including controls at borders (see the WHO technical manual on tobacco tax policy and administration (2, *section 3.4.8*)).

5.5.8 FREE ZONES AND TRANSHIPMENT POINTS

Key message

- **The key message for policy and implementation** is that licensing, due diligence, recordkeeping and tracking and tracing systems are also necessary within free zones, to prevent different economic operations from taking place outside the control of authorities.

Free zones are special economic zones with different regulations and oversight to encourage economic activity. The term “free zone” is very broad and can refer to a number of different types of area. The Financial Action Task Force, an intergovernmental body whose aim is to protect the global financial system against money laundering and financing of terrorism, listed the following types of free zones in its 2010 report (73): free trade, export processing, enterprise, free ports, foreign trade, special economic zones and bonded warehouses. A number of these can include alcohol manufacturing and trade. By definition, controls such as regulation and oversight within free zones are less strict than in other areas. This can make them appealing to people involved in illegal manufacturing or trade (55).

Although free zones were established with the intention of encouraging economic activity, they provide an opportunity for a range of illicit activities, including money laundering, tax evasion, and trade in counterfeit goods and illicit goods (74). As a result, effective and efficient tax administration should also include stringent controls of manufacturing and transactions involving alcoholic beverages in free zones, including a well-functioning tracking and tracing system. Removing exemptions on excise taxes is an additional way to increase control and remove incentives for using free zones as a means for tax evasion. Furthermore, countries can also prohibit the intermingling of alcohol with other products in a single container or any other such similar transportation unit when removed from free zones.

5.5.9 DUTY-FREE SALES

Key message

- **The key message for policy and implementation** is that countries can limit or prohibit duty-free sales.

Countries can limit or prohibit duty-free sales. This includes alcoholic beverages sold in airports or tax-free shops, where the product is sold without any excise tax burden. It also includes sales of tax-/duty-free products to international travellers who take the alcoholic beverages out of the country, as well as international travels bringing duty-free products into the country for consumption. These sales erode the effects of tax and pricing measures, and adversely affect government revenue by creating a loophole in the tax system (61).

5.5.10 PROCEDURES AFTER DETECTING ILLICIT TRADE

Key message

- **The key message for policy and implementation** is that action needs to be taken as soon as illicit trade in alcoholic beverages is detected. This includes collecting taxes, and seizing and destroying illicit products.

The procedures described in the foregoing sections are intended to increase compliance and to prevent illicit trade. When smuggling or illicit trade is detected, however – through, for example, audits, tracking and tracing systems, verification of declarations or border control – action such as seizing and destroying smuggled and/or illicit alcohol and collecting taxes due must be taken immediately. To deter further illegal behaviour, a comprehensive audit of everyone and everything involved in the illicit acts must also be carried out. Assets and vessels involved in the illicit activity can be seized, and financial accounts can be frozen.

One of the difficulties faced by competent authorities in exercising the authority to seize and destroy products and/or equipment used in manufacture or distribution is the cost of keeping or storing the items before destruction. Thus, the law should also set out a mechanism and timetable for disposal and/or destruction of seized and forfeited goods or machinery, while prescribing a mechanism by which these items can still be presented as admissible evidence in a judicial proceeding.

5.5.11 PENALTIES

Key message

- **The key message for policy and implementation** is that penalties should be designed to deter illegal alcohol trade activities sufficiently. Penalty amounts should be proportionate to lost taxes and duties resulting from illicit trade.

Penalties and sanctions must be sufficient to deter illegal activities. Otherwise, financial penalties may be paid simply as a cost of doing business while the illegal

activity continues. Countries should establish unlawful activities, including manufacturing, wholesaling, brokering, selling, transporting, distributing, storing, shipping, and importing or exporting products or manufacturing equipment without the payment of applicable duties or taxes, or without using fiscal stamps or other required markings or labels.

Countries should adopt legislative and other measures to give effect to such determinations, and to define whether the liability for undertaking illicit trade is a criminal, civil or administrative offence. Countries should adopt measures as needed to authorize competent authorities to levy penalties in an amount proportionate to lost taxes and duties resulting from the commission of illicit trade.

For consumers in possession of illicit products, the minimum penalty should be confiscation and destruction of the products found in their possession, with payment required for the unpaid tax and duties on those products.

5.6 THE BROADER ELEMENTS OF A GOOD TAX SYSTEM

Key message

- The broader elements of a good tax system include proper resourcing of competent authorities to hire staff and obtain the necessary equipment and systems; strict rules and regulations to detect and punish corruption among both agency personnel and taxpayers; and ensuring that the judicial system is honest and independent, and that disputes are solved as quickly as possible.

The broader elements of a good tax system are introduced briefly in this section. However, given that these are generalist principles that apply to other excisable goods such as tobacco, this manual also refers the reader to the complementary 2021 WHO technical manual on tobacco tax policy and administration (2, *Chapter 3*), for a more detailed discussion of these key components.

5.6.1 PROPER RESOURCING OF COMPETENT AUTHORITIES

Necessary staffing across multiple agencies is required for an effective tax administration system to be implemented and enforced. Implementation of electronic filing systems will also enable competent authorities to operate efficiently and increase compliance. Poor management and training, lack of strategy and corruption are all factors that may impede competent authorities when performing their duties. For more information, see the WHO technical manual on tobacco tax policy and administration (2, *section 3.6.1*).

5.6.2 COMBATING CORRUPTION

Corruption challenges the effectiveness of otherwise effective authorities, and erodes confidence in these institutions. Governments can earmark some tax revenue to combat corruption and implement various measures to minimize corruption. For more information see the WHO technical manual on tobacco tax policy and administration (2, *section 3.6.2*).

5.6.3 A STRONG JUDICIARY

The judicial system should be honest and independent in fact and in perception. Disputes should be solved rapidly – not over years, as is the case in some countries. The appeals process should have limits so that appeals cannot continue for years. The use of criminal rather than civil charges should also be considered, especially in the context of illicit trade (2).

5.7 CONCLUSIONS

Policies are more effective if they are properly implemented and enforced. Competent authorities play a key role in achievement of the financial and public health objectives of excise taxes. Qualities of an effective and efficient tax administration include institutional arrangements where roles and responsibilities of competent authorities are clearly defined to avoid overlap and gaps. Further, effective collaboration among relevant bodies must be facilitated. At the national level, within any organizational arrangement it is vital that agencies cooperate and exchange information, and that their competencies find their basis in law. A legal basis for exchange of or access to information between government bodies should be ensured. At the international level, especially for border control, the role of customs is crucial, as is access to international cooperation agreements. An organizational tax administration structure must include a system of performance evaluation and accountability through predefined key indicators.

To ensure compliance, the accuracy of information for the tax compliance cycle is critical, including clear and straightforward taxpayer registration and licensing, effective information systems, declarations, clear recordkeeping, a system of authorization, warehousing, distribution, collection and tax refund processes. Certain areas of tax administration may prove challenging for competent authorities, such as duty suspension and refund processes. To limit the number of taxpayers a competent authority has to manage, tax collection should take place close to the point of production and import.

Control and enforcement are key components of tax administration, and need to be included as pillars in the relevant strategic plan. Control and enforcement include a number of measures to secure the supply chain, such as licensing and due

diligence, fiscal markings, tracking and tracing systems, anti-forestalling measures, audits and controls, import and export control and attention to free zones and transshipment points. Enforcement and control plans must be designed to define the activities and taxpayers that are subject to enforcement, and to allocate staffing, auditing, infrastructure and IT resources. Targets must be defined, including the number of interventions and any additional tax collection or reduction of tax evasion. This includes choosing interventions for those who have a higher probability of non-compliance (the risk-based approach). In the supply chain, import, export and transfers to and from warehouses may be areas at greater risk of non-compliance.

These measures of controls and enforcement will only be effective when implemented within a well-functioning tax system, where authorities are properly resourced, corruption is eliminated or minimized, and a strong judicial system is in place to address failures in elements of control and enforcement.

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ANNEX 5.1 ALCOHOL TAX IMPLEMENTATION AND ADMINISTRATION IN SOUTH AFRICA

South Africa's alcohol tax administration

In Annex 3.2 of Chapter 3, a detailed country example outlines South Africa's challenges with alcohol and alcohol-related harms. It analyses the evolution of alcohol tax policy, highlighting tax structures, trends in tax rates, prices, consumption and tax revenue, placing alcohol taxation in a broader economic context. However, it does not consider the implementation and administration of alcohol taxes, so this companion country example takes the next step to continue that analysis. This section considers several more technical issues and challenges, including a system that may create perverse incentives to misreport alcoholic beverages to reduce tax liabilities, equal enforcement of legislation for micro-producers, and the lack of an integrated electronic registration and licensing system.

Excise tax rates

South Africa currently applies specific excise taxes based on the alcohol content of most alcoholic beverages. The one exception is the volumetric/unitary specific tax applied on wine, predominantly due to the narrow range of alcohol strength in the wine category, as discussed in Chapter 3.

In order to use alcohol content as the tax base effectively, administrative processes are required to determine the alcohol content/strength of beverages. These include methodologies such as a gas chromatograph, near infrared spectrometer and distillation followed by the gravimetric measurement of the distillate or by measurement in a density meter or alcohol hydrometer, applied with the measurement tables published by the International Organization of Legal Metrology. The industry uses all these methodologies for various types of alcohol products, while the South African Government uses the hydrometer and Alcolyzer (a near infrared spectrometry testing unit) to test wine. The country also currently has a reduced tax rate for certain products. These products and the reason for the reduced rate are summarized in Table A5.1.

Table A5.1. Products with reduced rates in South Africa

PRODUCT	REASON	RATE REDUCTION
Wine-based spirits, (e.g. pot-stilled and vintage brandy)	Historical changes in duty structure and regulatory requirements have led to brandy being at a competitive disadvantage relative to other spirits. Excise duty relief was implemented to equalize the playing field.	At the request of the National Treasury, excise duty relief was implemented in 2016. The excise duty rate for pot-stilled and vintage brandy was reduced over the following two years by 10% relative to other spirits.
Sparkling wine	Tax rates on sparkling wine are set annually, based on the weighted average retail price. However, high price differentials between imported sparkling wines (like Champagne) and locally produced sparkling wines mean that local products are taxed excessively. This has also resulted in a competitive disadvantage for sparkling wine relative to unfortified wine.	As of 2016 the excise duty rate differential between sparkling and unfortified wine has been maintained by pegging the excise tax rate on sparkling wine at 3.2 times that of unfortified wine.
Fermented and distilled spirits	Lower excise taxes are applied to fermented products relative to distilled spirits to support rural agricultural development and employment creation, but also because of the higher production costs (due to slower processes).	See Table A3.2 in Chapter 3 for the different excise tax rates for wine (fermented) and spirits (distilled) in South Africa.
Spiritous stripped products from a fermented alcohol (stripped fermented alcohol base that produces ethyl alcohol without a fermented character, indistinguishable from distilled spirit base)	These products were taxed at the rate of distilled products, even though they have higher production costs and provide benefits to rural economies.	Special tariff bands were developed for these products in 2011. The reduced excise duty rate applicable is the equivalent of 40% of the highest rate for distilled spirits per litre of absolute alcohol content.

Sources: Mail & Guardian (1); National Treasury (2).

The tax administration system

In South Africa, tax policy is determined by the National Treasury (equivalent to the ministry of finance in other countries), while tax administration and enforcement are under the purview of the South African Revenue Service (SARS). The Minister of Finance typically announces broad policies at the annual reading of the budget, but the technicalities of these policies are worked out within various departments in the National Treasury and SARS. On most technical issues there is very close collaboration between the two institutions. This country example considers the technical aspects of South Africa's alcohol tax policy implementation and administration as

it is currently applied by SARS, building on the information about the evolution of alcohol excise tax policy described in Annex 3.2 in Chapter 3.

South Africa uses duty at source (DAS), a system of assessing excise duty and accounting for excisable products at the source – that is, as close as possible to the point of manufacture when goods achieve their excisable character (for domestically produced goods) or at the point of importation. The accounting of excise liability and payment thereof under the DAS system requires the registration and licensing of people responsible for the production, use or storage of excisable goods. DAS is applied to all locally manufactured excise products, but imported equivalent products are not subject to DAS, and are only taxed on entry into the domestic market for home consumption (3).

Certain elements of the South African excise tax system create opportunities for tax evasion. For instance, taxation of wine using a volumetric/unitary specific tax rather than alcohol-content-based specific taxes results in a common form of tax evasion where water is added (up to 25% of the volume) to duty-paid “bulk wine”, which is wine not in packaging for retail sale. In some instances, cheap alcohol, obtained from the fermentation of sugar with water and yeast, is added to bulk wine. Tax evasion can also happen when bulk wine is cleared duty free for distilling purposes (for example, to produce brandy) and then sold as wine. To combat the high risk of illicit trade for bulk wine, the excise legislation was amended in 2013 to restrict clearances. Strict licensing requirements are imposed on the movement of bulk wine, both domestically and for export.

The production of most fermented alcoholic beverages requires significant investment in rural agricultural feedstock crops, substantial manufacturing equipment and warehousing. By contrast, the distillation of spirits is typically a cheaper production process that occurs in stills of wide-ranging production capacity, and in some instances may even include mobile manufacturing. Owing to the resultant high risk of excise duty evasion, spirits distillation is strictly regulated through the imposition of marking, registration and licensing of stills and recordkeeping requirements.

Challenges in equal enforcement for small and micro-producers

South Africa does not provide entry-level thresholds for small and micro-producers under its alcohol excise tax regime. All people who manufacture for sale products with an alcohol content exceeding 0.5% ABV are subject to alcohol excise tax, irrespective of the volumes of production. All manufacturers, including those that produce for their own use, must comply with the legal requirements for alcohol excise administration.

The production of most fermented alcoholic beverages requires costly manufacturing equipment, and economies of scale therefore limit the potential for small-scale production of wine, beer and other fermented beverages.

Challenges that have delayed adoption of electronic systems

Applications for registration and licensing for producers of alcoholic beverages are still manual and paper-based, which results in long lead times in finalizing them. As a result, there is no link to other SARS systems to assist in vetting of clients and determining the risk they pose, as is the case with most other taxes. Although submission of excise accounts is done electronically, SARS does not currently have a risk management system. Experienced officers to deal with these shortcomings are in short supply. This may affect the enforcement of alcohol tax policies.

Extent of illicit trade and unrecorded alcohol

Unrecorded alcohol consumption in South Africa consists of both illicit trade and homebrewing of alcoholic beverages. A 2019 SARS discussion document on excise legislation highlights the following complementary interventions that may supplement SARS's current risk profiling and enforcement measures to combat illicit trade in excisable goods, including alcoholic beverages (3):

- the ongoing refinement of critical risk factors to be considered in identifying excise transactions and taxpayers for verification checks and physical audits;
- the expansion of single-view profiling of taxpayers and the extension of integrated audit interventions across all the various tax types that SARS administers;
- an accreditation system that encourages excise compliance, linked and harmonized with a corresponding customs system of accreditation for importers and exporters;
- a comprehensive database to compare individual excise taxpayers against industry averages in terms of yields, losses, stocks, sales, payment cycles and so on;
- the implementation of appropriate anti-forestalling measures to curtail stockpiling by manufacturers of excisable goods ahead of anticipated duty rate increases;
- up-to-date fiscal marking, tracking and tracing measures that could be harmonized regionally and meet South Africa's international treaty obligations; and
- the preservation and strengthening of SARS's verification and physical audit capacity as the decisive intervention against the illicit trade in excisable goods.

Conclusion

A perennial challenge for the National Treasury and SARS is to ensure fairness in the tax treatment of producers of alcoholic beverages. Different groups within the industry lobby for preferential treatment for their products' subsector. In some

instances, the different treatment is justified, as was the case for the producers of pot-stilled brandy; in other instances, the requests are largely speculative and unjustified. Another ongoing challenge is the issue of RTDs and whether those with a fermented alcohol base should receive different tax treatment from those with a spirituous base (see Box 5.2 above). The fact that RTDs are consumed in substantial volumes by younger people makes this decision more pertinent.

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ANNEX 5.2 IRELAND'S DEFINITION OF ALCOHOLIC BEVERAGES FOR EXCISE TAX ADMINISTRATION

Ireland's Alcohol Products Tax and Reliefs Manual (1) is described in section 5.2.1. It includes detailed information and guidance on alcoholic beverage classifications. This annex sets out some of these beverage type classifications. As indicated in section 5.2.1, Ireland uses the CN codes as a tool for classifying goods. CN codes are eight-digit codes, and the various digits provide different levels of information: the first two digits indicate the HS chapter; the first four indicate the HS heading; the first six indicate the HS subheading; and all eight represent the CN subheading (2). The four-digit codes reported below represent the first four digits of the CN codes.

Spirits

According to the Manual, the spirits category covers brandy, whisky, gin, vodka, rum, other spirituous beverages and beverages such as cream liqueurs and designer drinks that, due to their composition and characteristics, are also classified as spirits. It also includes any other alcoholic beverage exceeding 22% ABV, which may include some wines. Spirits are usually classified according to HS/CN codes 2207 and 2208 and, in some instances, 2204.

In the Finance Act 2003, the term "spirits" is defined as "any product that exceeds 1.2% ABV and which is:

- a) distilled ethyl alcohol;
- b) an alcoholic beverage the full alcohol content of which is the result of a process of distillation;
- c) any other product falling within CN code 2207 or 2208; or
- d) any beverage exceeding 22% ABV

and includes any such product that contains a non-alcoholic product, whether in solution or not".

Beer

Beer is made from malt, has a minimum of 0.5% ABV and includes any beverage exceeding 0.5% ABV containing a mixture of beer with a non-alcoholic beverage. Beers made from malt are classified according to CN code 2203.

The Finance Act 2003 defines beer as: "(a) beer made from malt, and (b) any beverage containing a mixture of such beer with any non-alcoholic beverage, in either case exceeding 0.5% vol".

Wine

Wine is confined to unfortified grape wine and unfortified beverages with a grape wine base. Wine is classified according to CN codes 2204 and 2205, although these

classifications also include other products that, according to the Manual, would be classified as intermediate products and even spirits.

The Finance Act 2003 defines wine as “any beverage exceeding 1.2% ABV, the alcoholic content of which is entirely of fermented origin:

- a) obtained from the total or partial fermentation of grapes or the must of fresh grapes;
- b) not exceeding 15% ABV, or in the case of still wine produced without enrichment, not exceeding 18% ABV

and includes such wine flavoured with plants or aromatic extracts and grape must in fermentation or with fermentation prevented or arrested otherwise than by the addition of spirits”.

Other fermented beverages

The “other fermented beverages” category is further divided into two subcategories in the Manual: “cider and perry” and “other than cider and perry”. To be included in the cider and perry excise classification, a beverage must conform to the legal definition of cider and perry, which defines these as “beverages exceeding 1.2% ABV but not exceeding 15% ABV, obtained from the fermentation of apple or pear juice”. Cider and perry with the addition of apple or pear juice, or apple or pear flavouring, still retains the excise classification of cider and perry, as these additions do not significantly alter the character of the basic products. However, the addition of other fruit juices or flavours does alter the character of the basic products, resulting in them being classified as “other than cider and perry”.

The Finance Act 2003 defines “cider and perry” as a beverage exceeding 1.2% ABV but not exceeding 15% ABV, obtained from the fermentation of apple or pear juice and without the addition of:

- a) any other alcoholic beverage; or
- b) any other beverage or substance that imparts colour or flavour and which, by such addition, in the opinion of the Commissioners significantly alters the character of the product.

The fermented beverages covered by the “other than cider and perry” subclassification include sweets, mead and wines other than grape wine such as elderberry wine, strawberry wine and sloe wine. So-called alcopops, the alcohol content of which is at least partly of fermented origin, may also fall under this category. The “other than cider and perry” category also covers some fortified products, but as the upper limit for the strength of products in this classification is 10% ABV (when still) and 13% ABV (when sparkling) most fortified products will instead fall within the “intermediate beverage” excise classification. Cider- or perry-based beverages with

other added fruit juices or fruit flavours such as raspberry, cranberry, forest fruit or strawberry are classified in the “other than cider and perry” category and are liable to the corresponding rates of alcohol products tax. These products are classified according to CN code 2206, although some are found in 2205.

The Finance Act 2003 defines an item in the “other fermented beverages” category as a beverage other than beer and wine exceeding 1.2% ABV that:

- a) has an alcoholic content which is entirely of fermented origin and does not exceed 15% ABV; or
- b) has an alcoholic content that is only partly of fermented origin and:
 - i. in the case of a still beverage does not exceed 10% ABV,
 - ii. in the case of a sparkling beverage does not exceed 13% ABV and includes any mixture, exceeding 1.2% ABV, of such beverage with any non-alcoholic beverage.

Intermediate beverages

“Intermediate beverage” is a classification for fortified fermented beverages that are above the 10% ABV (when still) and 13% ABV (when sparkling) strength thresholds for “other fermented beverages” and may include sherry and port. Sherry and port are fortified by the addition of spirits, and thus they are classified in the “intermediate beverage” excise classification, not as wine or spirits.

The Finance Act 2003 definition of an intermediate beverage is any beverage other than beer, wine or another fermented beverage, the alcoholic content of which is at least partly of fermented origin and:

- a) in the case of a still beverage exceeds 10% ABV;
- b) in the case of a sparkling beverage exceeds 13% ABV

and which in either case does not exceed 22% ABV.

Other important tax administration definitions

“Sparkling” in relation to any beverage means any such beverage that is contained in bottles with mushroom stoppers held in place by ties or fastenings or that has an excess pressure due to carbon dioxide in a solution of three bar or more.

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ANNEX 5.3. TRACKING AND TRACING OF ALCOHOLIC BEVERAGES IN ECUADOR

The SIMAR system for tracking and tracing spirits, beer and cigarettes

Ecuador established the SIMAR tracking and tracing system with a five-year contract in 2017, which ended in 2021 (1). The system was set up to track and trace three types of products: spirits, beer and cigarettes. While the intention was to implement the whole system at the same time, owing to particularities of the sectors and legal issues, it was implemented in parts: first spirits, then beer and finally cigarettes. The three objectives sought by the SIMAR tracking and tracing system were (2):

- to strengthen and improve control of the excise tax;
- to combat evasion, smuggling, under-invoicing and adulteration (defined as, in the case of liquors, using a legal bottle or packaging to sell alcoholic beverages not suitable for consumption or of lower quality) and unfair competition affecting the formal market;
- to detect products of dubious origin that affect the health or life of citizens.

Characteristics of the SIMAR system

The SIMAR system was an integrated service (including the placement of the marking equipment in automatic production lines, the software and hardware to collect the information and transmit it online, the tax stamps, security ink, an executive reporter, technical support, updates, maintenance and field support, among others). It was procured through a public bidding process. The SIMAR system had general guidelines and certain considerations regarding security levels and technical conditions (3).

The system was designed as a whole, and a marking cost per unit was established. Projections were made of the quantity of products to be marked, and the terms of reference were established with that value. The cost of marking was estimated at approximately US\$ 0.01 per unit, to be borne by the state (2).

For industrial beers, the marking was done by printing a security code with security ink specifically designed for the project. For spirits, it was done with a tax stamp on the neck of the bottle, and for craft beers with a round label on the top of the bottles. In all cases the markings had visible, semi-covered, covered and forensic security features. The public could easily identify the visible ones and verify them through a public smartphone application, while the semi-covered and covered ones could be verified through use of specialized equipment. Some of the features (such as the forensic features) could not be verified through the public smartphone application for security reasons.

Marking either by labelling or printing was done at the level of the minimum unit – that is, each bottle or can – which was then placed in larger packages such

as boxes. When a printed or attached tax label was scanned, the general data of the product were identified – including the type of product, the presentation and when it was made – in a way that allowed the public to know whether it was a legal product on which tax had been paid. The marking provided further information to tax inspectors about the producer and the product itself. The production and marking data were collected automatically as the products were marked, and this information was stored in a master database.

Producers requested a certain number of tax stamps based on their production levels. These were delivered in a timely manner so that they could be applied without reducing productivity but, at the same time, without surplus that would allow capacity for waste, loss or theft of tax labels.

The SIMAR system's scope only included products of local origin, since the Servicio de Rentas Internas (Ecuador's internal revenue service) only has competence over these segments. At the time, the SIMAR system was implemented on top of Ecuador's existing system of tax stamps for imported spirits, which is managed by the Servicio Nacional de Aduanas del Ecuador (the national customs service) (2). Ideally, all products would have been included in a unified system, which would have allowed for comprehensive and more efficient control.

Differences in characteristics and international regulation of alcohol and tobacco in the system

The SIMAR system for alcoholic beverages was very similar to that for cigarettes, although with some differences in the technical and implementation aspects because of the characteristics of the products and production lines. The process was not the same, for example, for labelling a pack of cigarettes where there is no moisture present as it was for marking or putting a label on a bottle of beer. Additionally, there were technical differences in marking or labelling bottles of beer between an automatic high-speed line producing nearly 100 000 bottles per hour and a craft production operation that involved fewer than 5000 bottles of beer per year, or where the process was done manually.

Further, at the international level the market and the types and presentation of products in the cigarette segment are fairly standardized. Cigarettes tend to be sold in packs of 10 or 20 units; thus, production lines are very similar throughout the world. In the case of alcoholic beverages, however, in addition to the absence of an international standard, there are many different types of presentations, volumes and ways to contain alcohol. These range from 25-litre steel barrels for beer and plastic packaging for 5 litres of wine to small glass bottles for 200 millilitres of spirits, or even coconuts or ceramic bottles in the shape of exotic Ecuadorian fruits.

Another big difference between these product categories exists at the level of international regulations. Ecuador signed and ratified the WHO Framework Convention on Tobacco Control (5) in 2006, and its accompanying Protocol to Eliminate Illicit Trade in Tobacco Products in 2015, which provide a significant international legal basis that does not exist for alcohol. Both instruments highlight the need for a tax tracing system. For alcoholic beverages, although literature and recommendations are available on several aspects, there is little mention of fiscal traceability, and fewer international conventions or protocols serve as guidance.

The most significant challenge to implementing the tracing system for alcoholic beverages was not, however, the lack of a legal instrument that would support or enforce it. Operationally, the national alcohol market is much larger, more varied and more complex than that of cigarettes. The challenge was in achieving a standardized system that would fit all the alternatives and work efficiently without reducing productivity.

The impact of the SIMAR system

Implementation of the SIMAR system resulted in significant increases in tax revenue, with an increase of 23% for industrial beer and 21% for alcoholic beverages in 2017 and 2018. Furthermore, it was reported that the tax liability of producers grew by 168% in the first year and 227% in the second year (6).

The tracking and tracing system resulted in significant and sustained growth in the number of national producers of both alcoholic beverages and craft beer. This suggests that bringing producers formally into the market assists in regulating the market, formalizing the sector and making production and sales volumes transparent. However, the system's impact on eradicating the informal illegal market and smuggling did not meet the expectations of the local formal industry. While some regularization was achieved, the tracing system was ultimately only a tool for tax administrations. Whether the illegal market disappears or is reduced to minimum levels depends on several additional synergies, such as field control, generation of risk perception and dissuasive sanctions, among many other aspects. The SIMAR system ceased to operate in Ecuador in early 2022, after the contract ended (7).

Lessons learned

- The implementation of a tracking and tracing system in Ecuador from 2016 to 2021 resulted in significant increases in tax revenue, even while tax rates remained unchanged. The cost of marking each unit was approximately US\$ 0.03.
- The introduction of the tracking and tracing system made production and sales volumes more transparent and formalized the sector.

- The country example of Ecuador highlights that a range of synergies are necessary to combat the illicit market of alcoholic beverages, and that governments should not rely on a single approach.

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ANNEX 5.4. TRACKING AND TRACING OF ALCOHOLIC BEVERAGES IN KENYA

Implementation of the Excisable Goods Management System

The Kenyan government has undertaken several initiatives over the past two decades to tackle illicit trade in alcohol, regulate alcohol consumption and improve collection of alcohol tax revenue. These initiatives include the introduction of paper tax stamps in 2003 and the introduction of the Electronic Cargo Tracking System in 2010 (1). The change that produced the most tangible impact, however, was implementation of the tracking and tracing system introduced by the Excisable Goods Management System (EGMS) Regulations in 2013 (1), with subsequent amendment in 2017.

The EGMS requires fiscal markings to be attached to all alcoholic beverages – both domestically produced and imported products. First, all importers and manufacturers of alcoholic beverages are required to be registered by the commissioner. Importers and manufacturers must apply for the stamps at least 60 days before manufacture or importation, and excise taxes are to be paid upon approval of the application. Moreover, at least 60 days before the beginning of the month when stamps are needed, manufacturers and importers are required to provide a forecast for the quantities of stamps they intend to use in the next six months. Proof of importation is also required before excise stamps are issued to an importer (2).

To ensure accountability and seamless operation of the system, only people appointed by the commissioner of domestic taxes can produce the excise stamps and develop and install the system. Printing of stamps by those appointed is only done upon the commissioner's request. Manufacturers are required to affix the stamps immediately after packaging at the facility, while importers must affix the stamps at a place approved by the commissioner within five days after customs clearance. Finally, all manufacturers and importers are expected to account for all stamps issued to them, including damaged stamps (2).

Characteristics of alcohol tax stamps

Alcohol tax stamps in Kenya have several unique features. First, each product has its own unique stamps that are serialized with a digital code on the product. This is to prevent stamps of a cheaper alcoholic beverage being placed on a relatively expensive drink. Second, stamps are fitted with a quick response (QR) code with colour-shifting features to enable verification with smartphones or tablets. Moreover, a short message service code is provided to enable the user of the alcoholic drink to recognize genuine excise stamps. For identification purposes, the packaging material is printed with special text according to its intended user, such as "For use in Kenya", "Duty free", "Kenya Defence Forces" or "Kenya Police Service". Digital stamps can be

printed by the system with indelible security ink in a visible place on each package to enable authentication. In terms of placement, importers and manufacturers are required to place the stamps at a vantage point of the packaging material (such as at the cork/bottle top) so that tampering will be evident if it is broken (2).

Enforcing the EGMS

While the Kenya Revenue Authority (KRA) is the owner of the tracking and tracing system, administratively it is integrated with other government agencies. Various government agencies, departments and ministries are involved in enforcement of the law. The process is led by the Ministry of Interior and KRA. A multi-agency team including the KRA, Kenya Bureau of Standards (KEBS), Anti-Counterfeit Agency, National Council against Drug Abuse (NACADA), the National Police Service, public health officers, government chemists and national government administration officers are involved in carrying out compliance checks (3).

When conducting the inspection, the KRA and KEBS use their systems to determine whether alcoholic beverages are either genuine or counterfeit. If counterfeit, they are confiscated, and the prosecution process starts. Currently, the multi-agency team is developing “one-government working as one” to consolidate a single product marking/labelling system. This system will help in retrieving all information regarding the alcoholic beverages from the multi-agency team – particularly the KRA, KEBS, Anti-Counterfeit Agency and NACADA – from a single mark (2, 3).

The impact of the EGMS

There has been marked success since the adoption of the system. First, tax revenue has increased substantially. In the first year, collected excise taxes increased by 74% for wines and spirits and by 25% for beer (3). Since then, the increase has been gradual but consistent, aligning with an annual increase in alcohol consumption in Kenya. Second, illicit imports and tax evasion from domestic production have decreased (4). Finally, while different feedback has been received from stakeholders depending on their interests, the KRA reports that manufacturers and importers doing legitimate business have lauded the use of the EGMS. People in the supply chain – including wholesalers, retailers, and hotel and bar owners – are now able to verify the authenticity of goods they receive and thus avoid penalties from the KRA for dealing with illicit goods (5, 6).

Some of the factors contributing to this success include sensitization of the judiciary and law-makers, available data on illicit trade and the effects of illicit alcohol in the country, goodwill from the country’s administration – including the executive – in the fight against illicit trade in alcohol, and enhanced collaboration between the KRA and other government agencies. Initially, when government agencies

such as NACADA were working alone, it was not effective. They could only guess whether what was sold was genuine or not, but the EGMS created multi-agency actors who could verify the alcoholic beverages efficiently. When the NACADA plans a crackdown, KRA officers must be present to verify the product's legitimacy. Public health officers check on the sanitary conditions of alcohol sales points, while KEBS officers authenticate information to determine whether manufacturers meet the standards (3).

Barriers to executing the EGMS

Some barriers to executing this system are worth noting. Manufacturers have indicated that the cost of stamp fees is high compared to costs in other countries. For instance, for beer, the unit cost is US\$ 0.015, compared to US\$ 0.008 in Brazil and US\$ 0.002 in Morocco. The cost of the stamp is in addition to the excise duty tax payable under the Excise Act, and manufacturers consider this double taxation. Another concern from manufacturers is that EGMS implementation is not revenue neutral. Given the country's estimated production capacity of 500 000 bottles per hour and a stamp's estimated cost of about 0.07 Kenyan shillings, they feel there is a cost disadvantage for manufacturers of more than US\$ 220 million (3).

Further, the cost of equipment installation and operations is high. Requirements include blowers to dry parts of the products such as bottle caps before they can be coded, reject lines for each installed EGMS machine, server rooms, fibre-optic cabling, and software and hardware synchronization, among others. The total cost estimated by the alcohol sector when the EGMS was introduced was US\$ 4 million to implement the system (3).

To facilitate compliance, certain programmatic steps are important. First, it is essential to ensure that compliance is a continuous process, because when multi-agency teams raid an outlet, others are able to close down quickly thanks to modern communication technology. Second, more dedicated resources are needed for continuous compliance checks. Third, more efforts are needed to curb leakage of information from multi-agency teams about an intended raid and to dismantle cartels in the alcohol industry. The current measures include integration of the EGMS with other tax systems, including individual income tax and the integrated Customs Management System. The system is also being expanded to a Government of Kenya mark through integration of government services so that one stamp will serve the authentication and tracking needs of all government agencies.

Important findings and lessons from implementation of the EGMS

A number of lessons can be learned from Kenya's acquisition of the EGMS and the activities and events that followed. Acknowledgement that counterfeiting of the

older generation of tax stamps was rampant prior to implementation of the EGMS, which resulted in manufacturers under-declaring volumes of their products and subsequent under-collection of excise tax, was an important part of the process. Also significant was acknowledging the existence of illicit trade.

Further, it was important to use a country that had successfully implemented a comprehensive excise tax management system as a benchmark. KRA officials visited Brazil before implementing the system, following the recommendation from the Inter-American Center of Tax Administrations to learn the benefits of implementing a comprehensive tax management system and explore possibilities of customizing the system to respond to specific challenges in the Kenyan market. Undertaking a careful study of the legal framework with regards to procurement was crucial, based on legal battles that ensued after the KRA executed the contract. It is essential that procurement laws are followed to the letter. In Kenya's case, the KRA was able to defend itself as it employed both competitive bidding and single sourcing of the system, using the Public Procurement and Disposal Act of 2005 and the subsequent guidelines of 2009 and 2012.

It is necessary to ensure that the system is set up from the start with an adequate budget or financing mechanism. In Kenya's case, the programme was set up to be self-funding, as manufacturers and importers were to be charged 1 Kenyan shilling per stamp in the procurement plans for the EGMS. Both the technical and ethical track records of the tracking and tracing system supplier are critical. The KRA had to defend the system supplier against allegations of corruption or termination of contracts in other countries (2, 3).

The system supplier should be flexible so that value for money can be achieved. A negotiation committee was formed to review the contract for printing, supply and delivery of security stamps, along with the tracking and tracing system and the integrated production line. The costs of the system and the stamps should not impose financial burdens on manufacturers. Nevertheless, it is worth noting that the system remains the property of the supplier, and that a new supplier may not be able to use the platform, which could result in double the costs.

Finally, public participation and wider stakeholder consultation is important. This will help to identify potential issues in advance, such as complaints of excessive costs to manufacturers and importers. Manufacturers, importers, wholesalers, regional governments, police and the public at large in Kenya were consulted from the outset (3).

The current tracking and tracing system was meant to address the limitations of the previous manual excise stamp, which was "mute", meaning that the authorities could not get real-time production information. It was also intended to reduce human intervention in the declaration of information and to improve market surveillance,

including enabling the public to authenticate products in the market. Countries can address these challenges and more successfully by studying and learning from Kenya's example (2, 3, 5).

Lessons learned

- Kenya implemented an effective tracking and tracing system on alcohol alongside several other tax administration measures. A core component of the system is tax stamps, including digital stamps, with several unique features such as a QR code that allows the public to verify authenticity with a smartphone.
- The tracking and tracing system also forms the basis of a multi-agency collaboration within government that has brought about marked success. Tax revenue has increased substantially, and illicit imports and tax evasion from domestic production have decreased. The system is cost-effective and does not impose large financial burdens on manufacturers. A cost per unit per tax stamp is passed onto producers.
- Implementation has not been without challenges, including unique challenges for alcohol that require specialized equipment such as blowers to dry parts of the products (such as bottle caps) before they can be coded, reject lines for each EGMS machine, and IT infrastructure. While these costs may be high, they are one-time costs.

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ANNEX 5.5. ALCOHOL TRACKING AND TRACING SYSTEM IN THE RUSSIAN FEDERATION

Implementation of EGAIS

The Russian electronic tracking and monitoring system EGAIS is one of the world's first tracking and tracing systems for alcohol. The Ministry of Economic Development and Trade began to develop it in 2005. The EGAIS was initially designed as a surveillance tool to collect data on the entire production and supply chain of alcoholic beverages, and to reduce the share of illegally produced and undeclared alcohol. Serious implementation issues, however, forced the government to choose a stepwise approach (1–3).

In 2006 the system was implemented to collect data on the use of raw materials (ethanol and ethanol-based products) during the production process in addition to information on production volumes and leftover raw materials (4). From July 2006, all producers, wholesalers and importers of alcoholic beverages were required to obtain EGAIS equipment to be licensed (1). Subsequently, those who could not afford to purchase the equipment were no longer able to obtain or renew their licence. Moreover, other licensing requirements, besides those pertaining to the EGAIS, were also tightened, including increased minimum capital requirements. The more stringent licensing requirements forced a large number of smaller producers to close down. These companies, however, were already suspected to be the main producers of undeclared alcohol: so-called third-shift alcoholic beverages that are produced in factories but are not declared to the tax authorities (5).

Characteristics of alcohol tax stamps

New anti-counterfeit excise stamps were introduced with the implementation of the EGAIS. A unique 2-dimensional barcode printed on each stamp can be read with a compatible scanner (6). The new stamps allowed greater control over alcohol production and helped to reduce unrecorded alcohol production and consumption significantly. Other key measures such as increasing tax on non-beverage raw ethanol and ethanol-containing liquids – as well as introducing new, more effective and less toxic de-naturizers for non-beverage alcohol – further increased compliance (5, 7).

Subsequent roll-out of EGAIS

In 2008 the EGAIS was put under the direction of the Federal Service for Alcohol Market Regulation (FSRAR), a newly established federal agency responsible for drafting and implementing state policy, legal regulation of the production and distribution (import, export, wholesale and retail sale) of ethyl alcohol and alcohol-containing products, and law enforcement. The FSRAR was formed by a presidential decree

in 2008, and a government decree of 2009 established it as the legal successor of the Ministry of Agriculture, Ministry of Finance, Federal Tax Service and Federal Service for Tariffs in respect to all issues related to production and circulation of ethyl alcohol, alcoholic beverages and other alcohol-containing products, including obligations arising from the execution of court decisions (8).

From 2012, transport companies and carriers of alcoholic beverages with an alcohol strength of more than 25% ABV had to be registered within the EGAIS. In 2013 and 2014 the system was extended to include beer.

The final important step of EGAIS development happened in 2016, when the FSRAR was subordinated to the Ministry of Finance and the monitoring system was extended to cover wholesale and retail sales of all alcoholic beverages in urban settings. From 2017, the EGAIS covered the entire product chain. Retailers of alcoholic beverages were required to equip their outlets with a special cash register for alcoholic beverages, which contains a scanner of the 2-dimensional barcodes printed on the tax stamps and an EGAIS transport module that transfers information about the scanned alcoholic beverages to the FSRAR server in real time. The information is processed and verified immediately. Verification includes checking whether the beverage is registered in the EGAIS, whether the product is in the correct outlet or whether it was already sold elsewhere. After verifying the product and its authenticity, the server sends the response to the local cash register and the product can be released.

The customer is issued a receipt with a specially generated and printed QR code that contains a link to the EGAIS page with information about the purchased product. The link features information about the seller (name and address), receipt data (number, date and time of sale), series and number of the excise stamp, and overall product information such as the exact name of the product, volume, strength and information about the manufacturer. The consumer thus receives all the relevant product information, ranging from the factory where it was produced to its storage and transport history, up to the final point of sale. The QR code can be scanned by the client through a special mobile application developed by the FSRAR, which is freely available in the Russian Federation (9).

Enforcing the EGAIS

The tracking and tracing system's broad coverage of the entire alcohol market, along with implementation of the newest excise stamps and QR codes, has produced enormous success in reducing unrecorded alcohol. For instance, retail outlets that stocked illicit alcoholic beverages could no longer sell them through their cash registers, which diminished their ability to distribute unrecorded alcohol (5, 7). Although violations were reported – especially in regions outside Moscow – and sales of counterfeit alcoholic beverages appeared to have moved online at first, despite

a clear ban on online sales, implementation of the EGAIS into retail sales was a key measure to reduce unrecorded alcohol consumption in the Russian Federation (4, 10–12). Strong enforcement measures and blocking of illegal online shops of counterfeit alcoholic beverages seem to have led to a decrease in illegal online sales, but consumption of non-alcoholic beverages in the form of antiseptic lotions and other medicinal compounds remains an issue (13).

According to the FSRAR, the EGAIS aims to:

- ensure the completeness and accuracy of accounting for the production and turnover of ethyl alcohol, alcoholic and alcohol-containing products, with the opportunity to provide details to the government of the manufacturer, product type and name, strength, volume and correctness of excise tax calculations;
- guarantee recordkeeping of imports of alcohol and alcoholic beverages with control over the correctness of the calculation of excise tax;
- provide accounting of federal special stamps and excise stamps;
- analyse the state and development trends of production and turnover of ethyl alcohol and alcoholic beverages in the territory of the Russian Federation and its regions; and
- prevent the sale of counterfeit products by checking the accompanying documents certifying the legality of the production and circulation of ethyl alcohol and alcoholic beverages.

As a result, the system serves several purposes at the same time. It is a unique surveillance system that monitors all activities related to the production, import and sales of alcoholic beverages because it collects precise data on the alcohol market and traces the route of every alcoholic beverage from producer to carrier to seller and final consumer. It functions as a consumer information system because it provides the consumer with information about the origin of the purchased product. It also facilitates collection of alcohol tax and prevents tax evasion and production and sale of illicit alcohol. Since sales data are collected in real time through the generation of QR codes at points of sale, the EGAIS provides a clear overview of the tax revenue generated with an unprecedented level of detail.

The impact of the EGAIS

The expansion of EGAIS and alcohol tax increases in 2016 led to impressive results in terms of higher excise revenues: the government collected an additional 148 billion roubles (US\$ 2.15 billion) in 2016 and 2017, compared to the revenue collected in 2015 (14). The system detected 23 million units of counterfeit alcoholic beverages in 2017 and 20 million in 2018, and prevented them from being sold at retail outlets.

Lessons learned

- The Russian Federation is one of the first countries to implement a tracking and tracing system for alcoholic products and beverages. It was rolled out using a stepwise approach, starting in 2005. The result is a comprehensive surveillance system that serves several purposes at the same time.
- One element of the EGAIS system is the introduction of anti-counterfeit tax stamps with stronger security features, which allowed for greater control over alcohol production, helping to reduce unrecorded alcohol production.
- The full roll-out of EGAIS has been associated with increases in government revenue.

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CHAPTER 6.

Political economy of alcohol taxes

As with any proposed government action, policy-makers must navigate the political economy environment of alcohol tax at every stage of policy development including design, implementation and administration. While every country's distinct history, culture, systems and structural economic forces shape its unique contextual landscape, there are some universal themes when it comes to alcohol tax and pricing policies. This chapter first focuses on the subsidies and tax and financial incentives – such as loans and grants received by the alcohol industry from governments, international financial institutions and donor agencies. Next, it considers the position of alcohol tax and pricing policies within international trade agreements. Finally, to assist policy-makers' efforts in ensuring the beneficial impacts of their policies, the chapter describes how earmarking can improve the political economy of alcohol tax by funding programmes and initiatives that promote and support the health and well-being of the population.

6.1 SUBSIDIES, TAX INCENTIVES, LOANS AND GRANTS TO SUPPORT THE ALCOHOL SUPPLY CHAIN

Key messages

- The public health goal of alcohol tax is to reduce the harms related to alcohol consumption by increasing relative alcohol prices.
- Despite this goal, governments will often both tax and subsidize alcohol, or provide loans or support to sections of the alcohol supply chain. In addition, international financial institutions and donor agencies provide grant funding that benefits the alcohol supply chain. This is counterproductive, as alcoholic beverages are not an ordinary commodity.
- **The key message for policy and implementation** is that since price has such a significant impact on alcohol use and harms, a comprehensive fiscal approach to alcohol from a public health perspective should include reducing or eliminating this support to the alcohol industry.

Alcoholic beverages are not an ordinary commodity, and should be treated differently (1). Alcohol consumption creates a health burden for individuals and societies, and is a risk factor for more than 200 diseases and injuries.

The production process of alcoholic beverages progresses from design (or recipe) to sourcing raw materials, to manufacturing, import and export, distribution, marketing and advertising (2, 3). At every stage, governments, international financial institutions (IFIs) and donor agencies can provide support in a variety of forms. This section describes the various stages of the production process and provides illustrative case studies – as far as possible with the available data – of how alcoholic beverage production is supported around the world. Support discussed in this chapter include tax incentives, loans, grant funding and subsidies.

6.1.1 INCENTIVES AND SUPPORT FOR PRODUCTION OF RAW MATERIALS

A wide range of agricultural products can form the base for alcoholic beverages. While some beverages (such as wine) require a single input, others (such as distilled spirits) may be created from virtually any starch or sugar. Government subsidies at this stage of alcohol production may come in the form of direct payments or government-funded loans to domestic farmers – to incentivize production of agricultural inputs – or tax incentives dependent on the use of certain raw material.

Some countries design tax systems to favour local producers using locally grown raw materials. For example, in **Uganda**, lager-type beer was produced primarily with imported ingredients. The government levies a 60% excise tax on beer produced from imported raw material, rendering the product much more expensive. In response, a national brewer owned by a multinational company developed a sorghum variety and produced it using a domestic supply chain in order to market an acceptable lager with local input. To help this new beer compete on price with existing home-brewed products, the government initially levied a much lower 20% excise tax on beer produced using its domestically sourced agricultural inputs – in effect, subsidizing the introduction of a cheaper, mass-produced lager (4). The tax was increased to 30% by 2022 (5).

Additionally, IFIs and donor agencies have provided support and loans for production of raw materials dedicated to beer and wine production in almost all regions of the world (6). In 2019, one IFI announced that it would be investing up to €50 million (US\$ 54.5 million)⁴⁴ in a local brewery in **Ethiopia** to, among other things, increase local barley sourcing from smallholder farms (7). The same IFI also invested in establishment and operation of a facility for processing malt barley in **Poland**, with the intention of selling this to local breweries (8). It is notable that this type of support by IFIs is generally banned for tobacco: the World Bank took this step in 1991 (9). However, tobacco leaves have a sole purpose, which is to make

44 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = €0.917 (2019).

tobacco products. The raw materials used to make alcoholic beverages, such as sorghum, have alternative uses and can contribute to food security. However, it is essential to consider the proportional contribution to alcoholic beverage production.

6.1.2 INCENTIVES AND SUPPORT FOR ALCOHOLIC BEVERAGE MANUFACTURING

The alcohol production industry is highly concentrated globally (10). Potential economies of scale have fuelled concentration of ownership of production facilities and added to the pressures on all sectors of the industry to modernize their technologies and maximize efficiency. To remain competitive, governments have subsidized and provided tax incentives for modernization and stimulation of alcohol production. A number of country examples of subsidies and tax incentives in the manufacturing of alcohol exist.

In **Argentina** the government provides subsidies to support the wine industry. The Programa de Apoyo para pequeños Productores Vitivinícolas de Argentina II is a programme implemented by the Ministry of Agriculture, Livestock and Fisheries, with the National Institute of Vitiviniculture and the Inter-American Development Bank. One of the objectives of the programme is to support the adoption of technologies by small and medium-sized viticulture producers. The programme allocates up to US\$ 20 000 in non-reimbursable contributions for this purpose to beneficiaries, which have to make a complementary investment of up to 40% of the contribution. The funds are available for five years from 2022 (11). To support its wine industry, in 2020 the Argentine state of Mendoza announced plans to allocate 120 million pesos (US\$ 1.26 million) to provide harvest and hauling credits for small vintners, and another 120 million pesos to do the same for large producers or processing establishments (12).

In preparation for implementation of the Mercosur–European Union (EU) trade agreement in 2019, **Brazil** announced the creation of a fund with a target amount of US\$ 150 million to support renovations and logistical improvements aimed at modernizing the country’s wine industry. The trade agreement removed tariffs on wine bottles holding up to 5 litres for eight years, eliminating tariff protections for wines produced in Brazil (13). In 2012 the government of the Brazilian state of Paraná granted a multinational company tax incentives that could reach 843 million real (US\$ 210 million)⁴⁵ by 2020 to support construction of a factory that produces beer and soft drinks in the city of Ponta Grossa that reportedly cost 848 million

45 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 4.015 real (2018).

real (US\$ 260 million).⁴⁶ As part of this special agreement the company would pay only 3% instead of 12% of ICMS, a value-added tax (VAT) administered locally in Brazil. The Paraná government also suspended collection of the state tax on the importation of machinery and equipment for the company's new production line, as well as the state tax usually levied on imports of raw materials (14).

Through the Caribbean Basin Initiative, the United States Treasury shares much of the taxes it collects on rum produced in Caribbean nations and sold in the United States – at US\$ 13.50 per proof gallon – with the producing nations (15). By far the largest beneficiaries of this policy are the United States territories of **Puerto Rico**, where a form of this so-called rum cover-over has been in place since 1917, and the **United States Virgin Islands**, where the subsidy dates back to 1954.

Until roughly a decade ago, Puerto Rico was the largest recipient, and it was the territory's practice to use no more than 10% of these rebated funds to promote its rum industry (16). In 2008, however, a multinational company negotiated an agreement with the United States Virgin Islands government – which promised to rebate nearly half of its tax revenue back to the company – to receive US\$ 2.7 billion in tax incentives over 30 years in exchange for moving its rum distillery from Puerto Rico to the United States Virgin Islands. As part of the deal, the company would receive a new distillery, a 30-year exemption from all local property and gross receipt taxes, a 90% cut in its corporate taxes, and support for promotion and marketing of its products produced in the United States Virgin Islands – estimated to be worth tens of millions of dollars per year. It would also benefit from the United States Virgin Islands' subsidized sugar-cane production (17).

Puerto Rico responded by increasing its maximum payments to foreign companies distilling on its soil from 10% to 46%. United States Virgin Islands retaliated by setting an equivalent maximum, benefiting its other distiller. In 2016 alone, cash subsidies to the two companies from the United States Virgin Islands government totalled US\$ 125 million. In order to compete, Puerto Rico gave US\$ 555 million in the six fiscal years from 2011 to 2016 to three alcohol producers. Most of these funds went to one producer (18). In contrast, in 2009, Puerto Rico received US\$ 450 million in federal rum tax rebates; of this just US\$ 27 million went back to the alcohol producers (15).⁴⁷

46 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 3.257 real (2016).

47 The rum cover-over tax rebates to Puerto Rico and the United States Virgin Islands must be renewed by the United States Congress every two years. After years of competing against each other over this, in 2021 the Congressional representatives from Puerto Rico and the United States Virgin Islands joined forces to request that Congress remove the two-year sunset provision, in place since 1984, making the tax rebates permanent. As of December 2021, a bill to accomplish this had been introduced into the United States House of Representatives, but no further action had been taken (19).

In **Ecuador**, the government offered tax cuts and reductions in operating costs to support craft brewing. In 2019, Ecuador reduced the special consumption tax on craft beer from US\$ 2.00 to US\$ 1.50 per litre and exempted craft brewers from the mandatory application of the SIMAR seal – the national government’s identification and fiscal tracking system for cigarettes and alcoholic beverages (20) (see Annex 5.3 in Chapter 5 for a country example on the SIMAR system in Ecuador). **Mexico**, the world’s fourth largest beer producer and biggest beer exporter, took a more targeted approach to incentivizing craft brewing. In 2019, the federal government declared that 2020 would be the year of craft beer in Mexico. It offered tax exemptions (in the form of an exemption from the special tax on production and services), training and subsidies to purchase brewing equipment to domestic craft brewers, in an effort to bolster that segment’s ability to compete (21).

As part of the Tax Cuts and Jobs Act of 2017, the **United States** gave a significant tax break to alcohol producers in that country. Originally framed as providing temporary support to small-scale craft brewers and distillers (and originally dubbed the Craft Beverage Modernization and Reform Act), it gave all spirits producers – regardless of size – an 80% excise tax cut on the first 100 000 proof gallons produced. To beer producers it gave a 50% tax cut on the first 60 000 barrels produced, and to wine producers a 40% tax cut on the first 30 000 gallons produced. Since this applied to all manufacturers, not just the small-scale ones, the overwhelming majority of this approximately US\$ 4.2 billion in tax savings went to large – primarily foreign – producers (22). The United States Congress made the cuts permanent in December 2020.

In addition, IFIs and development agencies have also supported the production of beer and wine, especially through loans (6). Since the early 1990s, a regional IFI has invested more than US\$ 422 million through loans and equity investments in breweries in several emerging markets in central and eastern Europe (23). For instance, in 2018, it provided a loan of US\$ 18 million to the leading brewery in the **Republic of Moldova** to modernize and expand its brewing capacity, and to build a wastewater treatment facility (24, 25). Other investments have included support for bottling plants, purchases of production equipment, provision of working capital and modernization of brewing facilities (26). Another IFI provided a loan of US\$ 18.4 million and an equity investment of US\$ 6 million to a leading brewery in **Tanzania** that produces beer predominantly for the local market. The financing was to be used to build a new brewery and modernize existing breweries.

6.1.3 INCENTIVES AND SUPPORT FOR MARKETING, ADVERTISING AND PROMOTION OF ALCOHOLIC BEVERAGES

National governments support the marketing of alcoholic beverages primarily through tax deductions, rebates and cuts that affect marketing expenditure. In many countries, governments offer tax deductions for business expenditure, including expenditure on marketing, advertising and promotion. These deductions are available to many different types of businesses, including alcohol companies; however, they act as an incentive to spend on advertising and marketing to promote the sale of alcoholic beverages, which directly counters public health efforts to curb the harms derived from alcohol consumption, in addition to resulting in lost revenue for the government (23).

In the **United States**, all expenditure on marketing is tax deductible. In 2011, the last year for which figures are publicly available, the marketing expenditure of 14 major alcohol companies, accounting for approximately 79% of the United States alcohol market by volume, totalled US\$ 3.45 billion (27). Assuming the average United States corporate tax rate of 39.2% at that time, this deduction was worth US\$ 1.35 billion to the alcohol industry as a whole. It must be noted that such deductions are available to all industries, but the deductions for alcohol companies are counterproductive to the goal of improving public health, as they promote a toxic and psychoactive substance. In contrast, tax deductions for tobacco marketing have been banned in the United States, since tobacco only poses a direct threat to the health of the population (23).

In addition to these tax deductions, marketing and promotion activities of alcoholic beverages are often directly supported by governments. The principal vehicle for supporting advertising and promotion of alcoholic beverages in the United States is the Department of Agriculture's Market Access Program, introduced in the early 2000s. Recipients of Program subsidies include the Wine Institute (28), the Brewers Association (29) and distilled spirits producers. The growth of the Market Access Program since its launch has coincided with significant growth in exports of these products (30). In the first decade of the 21st century, California's Wine Institute received US\$ 60 million in subsidies from the Program, including US\$ 6.9 million in 2012 alone. These funds reimburse half the eligible expenses related to foreign wine-tasting events, trade shows and other advertising designed to promote United States wine exports (31).

The EU has also provided support to alcohol producers to promote their products abroad. For instance, a Dutch gin company received a €1.5 million (US\$ 1.74 million)⁴⁸

48 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = €0.864 (2021).

subsidy from the European Commission in 2018 to promote and advertise its products in the United States. The funding was used for point-of-sale marketing, payments to journalists for writing articles about the product, trade fair participation and cocktail workshops (32). During 2014–2018, EU subsidies under the Common Agricultural Policy totalled €6 billion (US\$ 6.99 billion)⁴⁹ (33). The Policy’s general goal is to support farmers and ensure Europe’s food security (34), but between 2014 and 2018 more than €1 billion of the total subsidy was earmarked for promotional measures, with three wine-producing countries receiving the majority of this amount (33).

6.1.4 CONCLUSION

This section has presented case studies of incentives by governments, IFIs and donor agencies to support the alcoholic beverage production supply chain. At every stage of the supply chain, government subsidies, tax incentives, loans and grants have the effect of reducing the cost of alcoholic beverages to those producing them. Since price has such a significant impact on alcohol consumption (35), a public health approach to alcohol tax should also consider the potential impact of these incentives on the final price of alcoholic beverages. The case studies illustrate the extent of these incentives in both low- and middle-income countries and high-income countries, ranging from government support to market European alcoholic beverages, support during the production process for several South American countries, and tax incentives and government support for agricultural processes related to alcoholic beverage manufacturing in sub-Saharan Africa.

6.2 COMPLYING WITH INTERNATIONAL LEGAL OBLIGATIONS

Key messages

- Domestic alcohol tax and pricing policies need to be implemented in ways that are consistent with international trade agreements and obligations associated with membership of customs unions. Good practices include using domestic taxes – particularly excise – rather than import tariffs, and ensuring that variations in domestic alcohol taxes across product categories have a clear justification in terms of the relative health risks posed by those product categories.
- **The key message for policy and implementation** is that domestic taxes that favour domestic over imported goods (national treatment) or that favour goods of a certain origin over goods of another origin without a clear health

⁴⁹ Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = €0.858 (2018).

justification may fall foul of international obligations concerning nondiscrimination. Although commitments in specific trade agreements and customs unions differ, as a general rule governments are in a strong legal position when taxes are well tailored to achieving health objectives.

International trade agreements establish obligations relevant to alcohol taxes. At the most general level, members of the World Trade Organization (WTO) have agreed upper limits on import tariffs (customs duties), and must ensure that domestic taxes such as excise taxes are nondiscriminatory (that is, do not discriminate against or among imported products) unless there is a valid health justification for the difference in treatment. More specifically, countries that are members of customs unions have harmonized import tariffs by creating a single external border, and may also have harmonized some approaches to domestic taxes and tax administration. These types of requirements are described briefly below, but it should be noted that countries typically retain substantial taxation powers and, given the number of alcohol taxes in place globally, legal disputes over the exercise of those powers are relatively few.

6.2.1 DOMESTIC TAX AND PRICING POLICIES AND WTO LAW

Under the General Agreement on Tariffs and Trade (GATT) of 1994, each WTO member agreed on maximum (bound) rates of import tariffs. These bound rates function as upper limits, meaning that applied import tariffs cannot exceed the limits agreed by each WTO member in its Schedule of Concessions. Although governments often use import tariffs to raise revenue, the distinct function served by import tariffs as opposed to domestic taxes is to protect domestic products from foreign competition. In this sense, because import tariffs are not also levied on domestic products, they are not well tailored to health objectives. Even where a product category is exclusively imported, in the absence of other restrictions on domestic production, import tariffs can be circumvented by producing domestically.

On the other hand, internal taxes such as excise taxes or sales taxes are not subject to upper limits under WTO law. These taxes must be nondiscriminatory, in the sense that they must not discriminate against imported products (national treatment) or between imported products from different countries (most favoured nation). In particular, GATT establishes two specific national treatment rules for determining when a tax discriminates against imported products in favour of domestic products. First, a strict rule prohibits *any* excess taxation of imported products where they are “like” domestic products (for example, perfectly substitutable). Second, where imported products are directly competitive or substitutable with domestic products (which presumes a high, but imperfect, degree of substitutability), *dissimilar* taxation to protect domestic production is prohibited. As these rules suggest, discrimination

can occur through the form (*de jure*) or effect (*de facto*) of a tax. In other words, the effect of a tax can be discriminatory even if the tax is origin-neutral on the face of it.

Although the general rule is that discriminatory taxation is prohibited, this is subject to several exceptions, one of which includes measures to protect health. Article XX(b) of GATT contains a general exception for measures “necessary to protect human, animal or plant life or health”. This can be relied upon as long as a health tax is applied in a manner that does not amount to arbitrary, unjustifiable discrimination between countries where the same conditions prevail, or operate as a disguised restriction on international trade. In essence, to justify an alcohol tax that has a discriminatory effect on imported products (such as a tax that falls more heavily on imports than domestic products), a WTO member would need to demonstrate that it is necessary to protect human life or health, and is applied in good faith. For example, differential tax rates across product categories need to be justifiable in terms of the relative health risks posed by the products in question.

These rules have led to several WTO disputes concerning alcohol taxes (36–38). Importantly, none of these has turned on application of the health exception in Article XX(b) because none of the tax structures in question were claimed to pursue a health objective.

For example, WTO dispute DS403: Philippines – taxes on distilled spirits concerned excise tax under which the **Philippines** taxed spirits differently depending on the primary ingredient used in production (39). Spirits using designated raw materials, such as sugar cane and coconut, were taxed at lower rates than spirits produced from other raw materials such as wheat and potato. The effect was to tax domestically produced spirits at lower rates than imported spirits because all the designated materials used in production were grown in the Philippines. Specific types of distilled spirits – such as whisky, gin and brandy, irrespective of their raw materials – were in a highly competitive relationship (being “like” or perfectly substitutable), and the excise tax amounted to excess taxation of imported products, in violation of GATT. Further, distilled spirits of different types, irrespective of their raw materials, were directly competitive or substitutable, and the excise tax amounted to dissimilar tax that acted to afford protection to domestic production, in violation of GATT.

In this dispute, as in other WTO disputes relating to alcohol taxes, the respondent or imposing member did not argue that the discriminatory elements of the tax structure were necessary to protect human health. Other case law on that exception offers guidance on the conditions under which a tax with discriminatory effect may be saved by the exception, suggesting that different treatment between domestic and imported products can be justified by the legitimate objective of health protection. Thus, any difference in treatment should be coherent and linked to risks the alcohol at issue pose to health.

Taxing products based on their alcohol by volume (as with a specific tax based on alcohol content) is one approach to seeking a tax structure that falls on product categories relative to their risk (depending on how they are structured and implemented). Other approaches that target product categories because of a specific role they play in harmful use may also be justifiable, but this would largely depend on the evidence concerning that risk, as well as evidence of the impact of the harmful use concerned.

6.2.2 DOMESTIC TAX AND PRICING POLICIES AND CUSTOMS UNIONS

Customs unions result in the creation of a shared customs jurisdiction, establishing a single external border for the purposes of incoming trade and few limits on trade among countries within the union. This harmonizes import tariffs on products entering countries, and eliminates them for trade within the customs union, limiting the usefulness of customs duties for health purposes.

Where excise taxes are collected at the point of importation, this can create a need to harmonize tax administration rules and agree on arrangements concerning tax collection and revenue sharing among countries in a customs union. For example, a number of EU regulations govern tax administration in the context of excise taxes (40). Similarly, in the context of the **Southern African Customs Union (SACU)**, import tariffs and excise taxes form a common revenue pool and are distributed to countries via a revenue-sharing formula (41). While SACU harmonizes excise taxes through a common tax, the EU harmonizes them by setting minimum tax rates. Minimum excise rates do not mean that EU Member States are free to set whatever taxes they wish above the established level, as they must define their taxes in a manner that does not distort competition. All goods within the same product category must therefore be subject to the same excise duty (see Annex 3.2 in Chapter 3 for a detailed country example on alcohol tax policy in South Africa that provides more detail on SACU).

Where free movement of people and goods within a customs union permits cross-border shopping, there is also a rationale to harmonize rules governing excise and other domestic taxes. Doing so can limit market distortions such as a so-called race-to-the-bottom dynamic, whereby countries within the union seek to attract cross-border shoppers through taxes that are relatively low compared to those in neighbouring countries (42) (see Annex 7.1 in Chapter 7 for a country example on alcohol taxes and cross-border trade in a customs union in the Nordic countries).

Where free movement of goods is established within a customs union, this also restricts the ability of its member countries to establish internal taxes. In the EU, while tax is a matter falling within national competence, Member States cannot impose internal taxes that discriminate between *similar* imported and domestic

products, as this would amount to a distortion of competition. The Court of Justice of the EU has been called to examine whether different internal taxes for beer and wine, for wine made from grapes and wine made from other fruits, or for ouzo and whisky, for example, are compatible with EU law. To determine whether products are similar or not, the Court considers whether they have similar characteristics (regarding their origin, method of manufacture, taste or alcohol content) and whether they meet the same consumer needs.

Some customs unions also establish rules regarding use of subsidies or state aid that apply to taxes. For example, where differential taxes have the intended effect of favouring some product categories over others, this may raise questions of whether a country is effectively subsidizing domestic production. These rules typically function in a similar way to principles of nondiscrimination, but the legal remedies available to other countries may be broader, such as permitting recourse to countervailing measures where the effect of a subsidy distorts trade.

As in the case of domestic law, no two customs unions are identical in terms of their legal form or effects, limiting the extent to which generalizations can be made above and beyond core principles such as nondiscrimination and necessity.

6.2.3 CONCLUSION

International trade agreements and obligations associated with membership of customs unions are political economy considerations for implementing alcohol tax and pricing policies. Good practices exist to strengthen a government's position in the event of legal challenges. In the context of international law, such practices include using domestic taxes – particularly excise – rather than import tariffs for health purposes. Others include considering any specific obligations or commitments relating to harmonization of excise or other domestic taxes, as well as tax administration, that may arise under a customs union, and ensuring that tax differentials between different categories of alcoholic beverages are justifiable by reference to the relative health risks posed by those product categories.

6.3 EARMARKING CONSIDERATIONS FOR ALCOHOL TAX REVENUE

Key messages

- The decision to earmark alcohol tax revenues is dependent on the particular contextual factors a country faces.
- Alcohol tax revenue may be earmarked through the use of soft or hard earmarks.
- While earmarking alcohol tax revenue presents many challenges – including both practical and structural ones – earmarking can be used as a political

lever to increase the likelihood of a tax's passage by increasing its popularity among policy-makers and the public at large.

- **The key messages for policy and implementation** are that:
 - a strong public financial management and governance system is critical to ensuring that an earmark can meet its intended spending objective;
 - an earmarking horizon should be set out clearly, with review and reapproval after this period;
 - there should be flexibility to reallocate funds to new priorities should they arise;
 - a balance needs to be achieved regarding the flexibility of the earmark, as it should be neither too broad nor too narrow.

Discussions around the fiscal implications of alcohol taxes are often tied to the question of earmarking. Earmarking is a public finance term that refers to the practice of designating revenue to finance a particular expenditure purpose (43). Expenditure earmarking involves mandating general funds to be spent for a specific purpose. An example of this is in Thailand, where government revenue from tobacco and alcohol tax is dedicated to a fund for health promotion (see Box 6.1) (44).

Tying revenue to expenditure on a particular programme or service is a relatively straightforward concept and common practice. Variations in earmarking design and application have important implications for the broader fiscal consequences of earmarking revenue, however. In theory, there are generally two forms of revenue earmarking – soft and hard. Soft earmarking is associated with a broad expenditure purpose and greater flexibility in terms of the revenue–expenditure linkage and allocation mechanisms more widely. Hard earmarking means that a revenue source can only be used for a particular service or programme, and the revenue cannot be allocated to any other purpose. In practice, there is a continuum of earmarking practices: many do not fall neatly into the categories of soft or hard but rather have some elements of each.

Box 6.1. Earmarked taxes and the Thai Health Promotion Foundation

The Thai Government uses alcohol excise taxes as a means to generate revenue, which can be used to benefit the general population. In 2020, the total earmarked alcohol taxes for the Thai Health Promotion Fund, the National Sports Development Fund and the Elderly Fund equalled 2839 billion baht (US\$ 90 million). Additionally, 2129 billion baht (US\$ 0.067 billion) were generated for the Public Broadcasting

Service.^a It should be noted that all these funds also have earmarked tax from tobacco products in addition to the earmarked tax from alcohol products.

The Thai Health Promotion Foundation (Thai Health) aims to promote Thai people's health, including reducing consumption of alcohol, tobacco and other related harmful substances. The National Sports Development Fund seeks to promote sports in Thailand, including sports for disabled athletes. The Elderly Fund aims to support elderly people financially through initiatives such as a monthly cost-of-living subsidy^b for all Thai people who fall into the relevant age category. The Public Broadcasting Service is the first public television station in the country. Its mandate is to work as a national not-for-profit station promoting a society of quality and virtue for the Thai people.

Thai Health was established through enactment of the Thai Health Promotion Foundation Act in 2001. It is an autonomous governmental organization (45, 46). Its budget comes from a 2% surcharge levied on excise taxes from alcohol and tobacco products. The surcharge is levied on top of the excise, not subtracted from it, leaving the excise for the regular budget. On average, the surcharge's annual revenue is 4.2 billion baht (US\$ 132.6 million). This funding mechanism has been an effective means of securing sustainable and long-term funding support for health promotion activities in Thailand (47).

Thai Health is not part of the Ministry of Public Health but is directly under the supervision of the Thai Health Board, chaired by the prime minister. Half the Board members are representatives of various ministries, and the other half are health promotion experts appointed by the government cabinet (48). While politicians have attempted to lobby Thai Health to procure particular goods (such as expensive exercise equipment and swimming pools), the Board rejected such demands by arguing that more cost-effective methods could achieve the same goal. As such, operating as an autonomous governmental organization allows Thai Health to execute its mission transparently and cost-effectively without political and bureaucratic interference.

While the Ministry of Public Health typically addresses treatment for sick people and provides service-based health promotion, Thai Health fulfils a different role. The organization coordinates, empowers and financially supports partner organizations countrywide to promote people's health collectively rather than providing services itself (45).

One of Thai Health's areas of health policy advocacy has been alcohol control. Since this push began, the number of national alcohol policies in Thailand has increased substantially – from one policy per eight years between 1950 and 2001 to two policies per year from 2003 to 2008. The collective impact of Thai Health's work and its alliances includes a reduction in annual per capita alcohol consumption: from 8.1 litres of pure alcohol in 2005 to 6.9 litres in 2019 (49).

Notes:

^a Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 31.67 baht (2022).

^b The amount provided is 600 baht/US\$ 18.95 in cash per month.

6.3.1 EARMARKING AND THE POLITICAL ECONOMY OF HEALTH TAXES

Linking alcohol tax revenue to the financing of particular priorities can help build support among the public and policy-makers in favour of the adoption of a tax rate increase. While people may be opposed to or uninterested in increasing taxes, this opposition may be mitigated if the revenue from the tax will benefit the public through increased spending on specific government programmes. People have also been shown to be more supportive of health-promoting tax increases when they know the revenue will be used for targeted social programmes (45, 50, 51). Linking the notion of alcohol tax revenue to anti-alcohol policies or another health-promoting purpose also helps to frame alcohol tax as a public health intervention in the minds of those who may otherwise oppose it as a mere revenue-raising mechanism (52). However, this political linkage can present a risk if the earmark does not materialize in terms of financing the promised expenditure purposes. In this way, the implementation realities of a proposed earmark need to be considered carefully.

6.3.2 COORDINATION BETWEEN HEALTH AND FINANCE FOR THE EARMARKING DECISION

The relationship between health and finance authorities often depends on the specific design of the earmark, including whether it is hard or soft and the expenditure purpose of that tax. Aligning the interests of finance authorities with a health tax earmark often requires a soft earmarking approach, whereby there is still some discretion and flexibility in its allocation. The issue becomes how to take advantage of this alignment for political purposes without the health sector losing its capacity to advocate within the finance sector for sustained increases in allocations (45).

6.3.3 EARMARKING AND PUBLIC FINANCIAL MANAGEMENT

The interface between earmarking and public financial management (PFM) systems comes in different forms. On the one hand, earmarking is sometimes pursued as a way to match funds with policy priorities when there is a perceived shortfall in the budgeting process. However, earmarking may also be helpful to facilitate expenditure management when routine PFM systems are too weak or too rigid. For example, Thai Health (see Box 6.1) sits as a semi-autonomous agency that is not directly answerable to the Ministry of Public Health, in part because it does not have to rely on it for budget allocations. Beyond budget prioritization, this type of financing

arrangement may avoid inefficiencies in the overall PFM system that might delay the release of funds, but it should only be considered for very narrow and specific expenditure purposes. It is not a broad health-financing strategy.

Earmarking can be particularly problematic from a PFM perspective if appropriate safeguards are not introduced proactively, or if the underlying PFM system is weak. Some of the potential pitfalls include bypassing or reducing parliamentary supervision, a lack of annual and other reviews associated with the established budget process, potentially bypassing the central treasury account, and associated transparency and governance issues of parallel funds that are not under the purview of overall budget scrutiny. In general, just as any earmarked source of revenue needs to be assessed in relation to overall government and health sector financing, it also needs to be examined in the context of overall PFM arrangements and capacities. Not taking into account these underlying systems can directly constrain the policy objectives of the earmark and, even more importantly, undermine public support for the health tax measure that underpins it.

Countries in regional agreements, like customs unions, may encounter additional considerations for earmarking. A country example of Botswana's experience in earmarking a levy within SACU is described in Box 6.2.

Box 6.2. Earmarking and customs unions

SACU consists of Botswana, Eswatini, Lesotho, Namibia and South Africa, of which South Africa has by far the largest population. SACU is unique among customs unions in that it imposes the same excise tax on excisable products across countries, and follows South African excise tax policy decisions. The customs and excise tax revenue are collected in a common pool, and are divided based on a formula that ensures that the smaller countries receive a disproportionately larger share of the revenue (see also Annex 3.2 in Chapter 3).

Being tied to SACU rules can be viewed as positive or negative. From a public health perspective, it benefits the smaller SACU countries when South Africa follows an aggressive excise tax policy, but it also constrains these countries' public health policies when South Africa takes a more relaxed approach. In 2008 Botswana found a way around this by implementing an additional so-called levy on alcohol, over and above the SACU-imposed excise tax. Had this been called an excise tax, the additional revenue would have been transferred to the common revenue pool, where it would have been distributed among the five SACU countries. Instead, the government of Botswana called it a levy and earmarked the revenue for public health purposes. The additional tax was levied at 30% of the imported or manufacturer's value (53).

As a result of the levy, alcohol prices in Botswana are substantially higher than in neighbouring South Africa (54).

While this country example illustrates the complexity of earmarking within a regional agreement, it also elucidates the necessity for expenditure guidelines when earmarking. In Botswana, the revenue collected through this levy was not used as intended, and became part of the country's general budget.^a As a result, popular support for the alcohol levy waned, and there is currently pressure to abolish it.

Note: ^a according to Parry C, Voetsch K. Evaluation of the alcohol levy in Botswana: report prepared for the Ministry of Health, Botswana; 2012 (unpublished).

6.3.4 KEY LESSONS IN DESIGNING EARMARKING FOR HEALTH FINANCING

Given the mixed experiences with earmarking, a few considerations should be prioritized in policy dialogue around earmarking and health financing. First, strong PFM and governance systems are critical to ensuring that an earmark can meet its intended spending objective. Undue delays and lack of transparency in terms of allocation mechanisms can work against and even distract from overall health-financing objectives. One method a country may use to overcome weak PFM and governance systems is use of extrabudgetary funds (funds outside the general government revenue pool) that do not have the same accountability as general government revenue. Earmarked funds are channelled to the extrabudgetary funds, and this creates greater flexibility in how the funds are spent. Earmarked revenue channelled to extrabudgetary funds also creates an opportunity to carry revenue over from year to year, which is useful in dealing with the unpredictability of health expenditure. **Ghana**, for instance, has earmarked a percentage of VAT revenue to the National Health Insurance Fund, which is used to pay health-care providers delivering health services. This facilitates spending flexibility and permits use of strategic payment methods to health-care providers (such as capitation and case-based payments) (52).

Second, earmarking should involve a clear time horizon, after which it is reviewed and subject to reapproval. Ultimately, earmarking is inherently tied to policy priorities because it links funding to a priority at a moment in time. These priorities and needs might shift. The reapproval requirement can also help if financing objectives are not met. A review process is important to address efficiency concerns related to shifting priorities, needs and macro-fiscal contexts.

A third key design feature of earmarking from a health-financing perspective is to have flexibility to reallocate funds to new priorities should they arise. This

flexibility means that if unexpected, often urgent, health and economic crises arise in a country, policy-makers are able to use earmarked funds to address this.

Finally, a balance must be achieved regarding the flexibility of the earmark, as it should be neither too broad nor too narrow. An earmark that is too narrow might introduce rigidities and inefficiency; it needs to be narrow enough to be enforceable and to link it to an expenditure agenda. For instance, when revenue is earmarked for national health insurance coverage (as is the case in Ghana), the agenda for expenditure is clear, and can be tracked, but there is scope for adjusting spending priorities. A very broad earmark (such as revenue earmarked for health in general) introduces fungibility in terms of revenue sources, and this makes it difficult to enforce and maintain support for the earmark (52).

6.3.5 EXPERIENCES WITH EARMARKING OF ALCOHOL TAXES AND HEALTH FINANCING

The health sector has a long history of earmarking: at least 80 countries earmarked revenue sources for the health sector as of 2016 (52). The majority of those (62 of the 80) used income or payroll taxes to fund access to health care for the population. Revenue from tobacco, alcohol or sugar-sweetened beverage taxes is earmarked for the health sector in 54 countries. While earmarking alcohol tax has not been as prominent as earmarking of tobacco tax, there are a few country examples. For instance, in **Colombia**, 70% of alcohol tax revenue is earmarked to fund health care. In **Costa Rica**, while alcohol tax has been earmarked, it has not been allocated to alcohol-related harms; rather, it is targeted to the National Council of the Elderly. In **El Salvador**, alcohol tax is allocated to the Solidarity Fund for Health. Similarly, in **Jamaica**, alcohol tax contributes to the National Health Fund. **Panama** follows a narrower approach with its alcohol tax earmarking, allocating funds specifically to treat alcohol-use disorders (55).

In the **Philippines** in 2012, a reform significantly increased tobacco and alcohol taxes and earmarked the remaining balance of incremental revenue for UHC, health programmes such as health awareness, medical assistance, and health enhancement facilities, and towards attainment of Millennium Development Goals. In 2019, the tax was increased and the earmarking was changed from incremental to total revenues. Of total excise tax revenue from alcohol, 100% was allocated to the following: 60% to the National Health Insurance Program, 20% to medical assistance programmes and the Health Facilities Enhancement Program, and 20% to achievement of the Sustainable Development Goals. This reform has raised substantial revenue for the health sector, amounting to 1.1% of gross domestic product in 2015, which tripled the Department of Health's budget (52). The Philippine earmarking country example is a good example of a soft earmark, where expenditure needs to be related to health but can be reallocated to pressing priorities as long as they are health-related. Strong

PFM and governance systems in the Philippines ensure that earmarks are used for their intended spending purposes. Importantly, the Department of Budget and Management has some discretion over the size and timing of allocations to the health sector. In this way, the earmarked funds are subject to the same budgetary processes and discretions as other sources of public funds for the health sector. Furthermore, it is important to note that it is unlikely that the reform would have passed the Congress without the earmark.

Many countries that earmark alcohol tax revenue for the health sector do so in a targeted way. This can be considered a tight revenue–expenditure linkage. For instance, **Thailand** earmarks tobacco and alcohol tax for Thai Health, which is responsible for public health education campaigns and programmes to combat the harmful use of alcohol, tobacco, unhealthy diets and sedentary behaviour (45). This type of hard earmarking with a strong benefits rationale – whereby health system costs to curb unhealthy consumption patterns are paid for by those consuming the unhealthy products – may be less prone to fungibility issues, and can lend itself more to transparency and accountability (see Box 6.1 for a more detailed description).

Broader earmarking of alcohol taxes has been adopted in **Colombia**, **Guatemala** and **Mexico**. In these countries, alcohol taxes are earmarked for the general health sector budget (52).

6.3.6 CONCLUSION

Alcohol tax revenue may be targeted for health promotion through the use of soft or hard earmarks. Country case studies in this chapter provide evidence of the considerations and challenges that policy-makers may face when using earmarks. One factor is that earmarking can help to build support among the public and other policy-makers for increased alcohol taxes. Another important consideration is a country's PFM system: it should be ensured that relevant safeguards are in place to prevent constraints to the earmark objectives, which might undermine public support for earmarked taxes.

Several key lessons for designing earmarking are outlined above, largely relating to a country's PFM and governance system, the earmarking horizon and the flexibility of the earmark design. However, any considerations of earmarking – whether from alcohol tax or other revenue – should weigh political messaging carefully with implementation feasibility.

This chapter has described the political economy of tax and pricing policies, including subsidies and tax and financial incentives in the alcohol supply chain, the international legal obligations related to alcohol tax and pricing policies, and finally key lessons related to earmarking. All three sections highlight the overarching role played by policy-makers in protecting public health, and the political economy environment that policy-makers need to consider at every stage of alcohol tax and pricing policy development.

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CHAPTER 7.

The alcohol industry and corporate activities: industry arguments against alcohol tax and pricing policies

7.1 INTRODUCTION

The alcohol industry has been effective in its tactical efforts to block important advancements in alcohol tax and pricing policies. This chapter starts with a discussion of the industry's corporate activities, highlighting how it engages in the policy process – often through lobbying – to maintain the status quo and avoid and/or delay alcohol tax reforms and tax increases. This is followed by a discussion of industry arguments against tax and pricing policies, showing that they are often manipulated or devised to assist the industry's advocacy and lobbying efforts to oppose alcohol tax and pricing policies. The industry framing of each issue is dissected, pinpointing the flaws in each argument, identifying the extent to which each concern has merit, and suggesting how a responsible government can address each one. These discussions are supported by unbiased evidence from independent, peer-reviewed research, as well as specific examples from country experiences.

Common industry arguments include claims that alcohol tax and pricing policies result in an increase in unrecorded alcohol (section 7.3) or legal and court challenges (section 7.4); that these policies are anti-poor and regressive (section 7.5); and that they have significant impacts on revenue (section 7.6) and employment (section 7.7). Finally, industry often uses misrepresentation of health information to create confusion about actual alcohol-related health harms (section 7.8).

This chapter will equip policy-makers with the tools they need to proceed with confidence that their alcohol tax policy – developed and implemented following the guidelines spelt out in this technical manual – will bring about the greatest health and economic benefits for their constituents, regardless of industry attempts to thwart them. In the WHO technical manual on tobacco tax policy and administration (1), the tobacco industry's challenges to tobacco tax policies were organized into the five categories of SCARE tactics. These stand for (S) smuggling and illicit trade, (C) court and legal challenges, (A) anti-poor and regressivity rhetoric, (R) revenue reduction and (E) employment impact. In addition to these arguments, this manual adds another: misrepresentation of health information. As with tobacco control,

alcohol control can refer to these SCARE tactics as an advocacy tool to highlight the industry's arguments and push back against their opposition to alcohol tax and pricing policies.

7.2 THE ALCOHOL INDUSTRY AND CORPORATE ACTIVITIES TO INFLUENCE TAX AND PRICING POLICIES

Key messages

- The alcohol industry and its allies use several types of corporate activities to block the use of alcohol tax and pricing policies. This includes lobbying, constituency building, and use of financial incentives and measures – such as donations to individual policy-makers.
- These corporate activities, and potential participation of the alcohol industry in alcohol tax and pricing policy development, undermine governments' autonomy to develop and implement these policies.
- There is currently a gap in advice to countries on the approach that should be adopted when dealing with the alcohol industry, and a need to address this gap.
- **The key message for policy and implementation** is that lessons can be learned from international experiences in countering industry opposition to tax and pricing policies. Governments can examine this experience, which provides clear guidance for managing policy interactions with the alcohol industry, to ensure that alcohol tax and pricing policies are protected from commercial and other vested interests of the industry.

As with other unhealthy commodity industries, leading alcohol producers – in coordination, via industry associations – can undermine the impacts of alcohol tax and pricing policies and governments' autonomy to develop and implement alcohol regulations (2). It is therefore critically important to understand both the global scope and structure of the alcohol industry and the strategies used – particularly in their efforts through corporate activity.

Understanding alcohol industry opposition is essential to promoting effective tax policies. A review of policy-focused literature on health taxes in low- and middle-income countries (LMICs) identified 75 papers, only five of which focused on alcohol (3). Literature on the alcohol industry's tax-related political strategies does exist, although detailed political economy analyses are limited. Such studies tend to focus on policy in high-income countries (HICs) and place a notable emphasis on the politics of minimum pricing across the United Kingdom. The evidence presented in this section demonstrates the use of corporate activity by the alcohol industry and

its allies in seeking to prevent the use of alcohol tax and pricing policies, which are aimed at reducing alcohol consumption and harm, and promoting public health.

7.2.1 THE GLOBAL ALCOHOL INDUSTRY

The alcohol industry is highly concentrated globally – particularly within the beer and distilled spirits segments, while the wine segment remains much more fragmented. Taken as a whole, the dominance of beer by volume places the world’s leading brewers at the forefront of the industry. A list of the world’s leading producers of alcoholic drinks by volume is dominated by companies that primarily manufacture beer, led by Anheuser-Busch InBev (AB InBev) with 26% of the global beer market, followed by Heineken at 11% and Carlsberg at 6% (4-8). While consolidation is less marked within the spirits segment, Diageo’s global spirits market volume share has remained broadly stable at around 9%, followed by Pernod Ricard at 6% (5,9). The wine industry remains significantly more fragmented: E&J Gallo is the world’s largest vintner, with around 3% of the global wine market (10).

Understanding the distinctive structure of the alcohol industry and its variations across product categories is extremely significant in some policy contexts, since the impacts of tax policy vary across product categories and market segments. A review of the impact of pricing policies on alcohol consumption found multiple axes of “division and disagreement” within the industry in relation to tax and pricing policies (11). Opposition to tax and pricing proposals may be led by those segments of the industry seen as most likely to be affected (such as cheap alcohol producers), and divisions can be exacerbated when one sector is seen as privileged (as in wine producers in several European contexts) or when specific product categories (such as alcopops) are targeted for particular attention. In some contexts, divisions are significant enough that parts of the industry oppose reductions in tax that would benefit other producers (12).

7.2.2 CORPORATE ACTIVITY DEPLOYED BY THE ALCOHOL INDUSTRY

The corporate activity of unhealthy commodity (including alcohol) industries often entails adopting an information strategy of carefully selected data and arguments that support commercial objectives. These diverse tactics are intended to shape policy; they include “lobbying, by internal or external professionals and executives; reporting research and survey results; commissioning research/think-tank research projects; testifying as expert witnesses and in hearings or before other government bodies; and supplying decision-makers with position papers or technical reports” (13).

7.2.2.1 Lobbying

There are some indications of direct influence via lobbying of key government actors. In **Nigeria**, for example, it was reported that a staff member of a transnational brewer claimed to have intervened to successfully reverse a proposed tax increase (14).

In other contexts, direct lobbying has been significant as part of a broader information strategy to influence tax debates. In **Thailand**, one company reportedly used its close relationship with a member of the legislature to shape the review of an excise tax bill in 2007: the member called seven meetings of the relevant parliamentary commission within the course of four weeks (15). In **Jamaica**, industry bodies lobbied for an adjustment of their special consumption tax, arguing that it was the reason for poor economic performance (16, 17).

Another approach is to use third parties, including other governments and industry associations, to lobby on behalf of alcohol producers (18). Indirect lobbying formed part of a particularly wide-ranging industry strategy to contest the public health case for minimum pricing (MP) and to shape policy discourse and understanding of evidence. This diverse information strategy adopted by industry actors to target policy-makers included:

- developing critiques aiming to discredit economic modelling that underpinned the case for MP;
- funding research and arguments to advance industry preferences;
- seeking to reframe MP as a regressive measure that would exacerbate inequalities and have punitive impacts on a majority of the adult population of Scotland, United Kingdom;
- presenting price-based interventions as being ineffective – particularly in relation to heavy drinkers;
- contending that the introduction of MP would have damaging impacts on businesses, employment and on the wider economy;
- claiming that MP would stimulate a rise in illicit trade in alcohol, specifically in the country example of implementation of MP in Scotland, United Kingdom (19–23).

Such argumentation is consistent with alcohol industry strategies to shape tax policy debates in other jurisdictions. The spirits industry in **Poland**, for example, has reportedly had some success in influencing policy debates by deploying claims of damaging economic impacts. These have included allegations that increased excise tax would stimulate smuggling and illicit production and cause widespread harm among retailers, and that business would be lost to bordering countries (24).

7.2.2.2 Constituency building

Alcohol industry efforts to counter the development of effective tax policies have consistently maintained a strong focus on mobilizing support for favoured positions among key constituencies that may be significant to decision-makers – including voters, customers and employees – and across related companies and sectors (25). Tactics employed include forming alliances with trade associations and industry sectors; grass-roots mobilization or mobilizing civil organizations, consumers or the public; public relations or corporate social responsibility initiatives; advocacy advertising that promotes a particular position to key audiences; and corporate-image advertising (13, 25).

Constituency-building strategies have comprised both external elements that seek to build wider support across related sectors and potentially sympathetic audiences and internal dimensions to promote effective collaboration across alcohol companies (26). A journal article illustrates industry efforts in **Hong Kong Special Administrative Region** (Hong Kong SAR), China, to secure a reduction and then removal of duties on wine and beer in 2007–2008, demonstrating the successful orchestration of support across diverse target audiences. These efforts involved mobilizing other industry sectors by building “a coalition encompassing a range of catering and trade industries”. The industry used intensive media advocacy, characterized by regular newspaper columns promoting a reduction in duties, fact sheets, press releases and information materials to build public support for industry-favoured positions. It also secured support across key organizations including civil society, unions and political parties (27).

Given that different tax structures can have divergent impacts across the alcohol industry, trade associations have often played significant roles in managing risks of internal conflict and competition and maintaining broad consistency in lobbying positions. During debates about the introduction of MP in **Scotland and England, United Kingdom**, industry trade associations played a critical role in “providing a means by which the entire industry, or broad sectors within it, could speak with a single voice” (18).

In the past, alcohol industry efforts to shape excise tax policies have been implemented jointly with the tobacco industry, who share an interest in suppressing excise taxes (25). Evidence from recently investigated tobacco documents reveals the use of payments to reframe public perspectives of a proposed increase in alcohol and tobacco taxes using various monitoring, coordinating and public-facing activities (28).

Alcohol industry-funded social aspects/public relations organizations have often been used to promote the industry’s image as being socially responsible. They have also been used as an industry voice to discourage effective health tax increases. For instance, a 2013 summary by one of these social aspects/public relations organizations asserts that “some scientific studies show the heaviest drinkers, including heavy episodic drinkers,

are the least sensitive to pricing policies”; presents so-called disproportionate taxation as regressive; and links tax increases to unintended consequences like expanding illicit consumption and reducing government revenue (29). These themes were reiterated in the same organization’s 2018 policy review of alcoholic beverage taxes (30).

7.2.2.3 Financial incentives and measures

The third strand of corporate activity involves efforts “to influence public policy by directly aligning the incentives of the policy-makers with the interests of the principals through financial inducements”, including via donations to individual policy-makers or to a political party or favoured organization, honorariums, hospitality and travel expenses (13).

Alcohol industry philanthropy and corporate social responsibility can similarly serve strategic functions in the context of efforts to shape tax policy. In 2005, **Thailand’s** leading importer of alcoholic beverages was able to secure access to the prime minister following a large donation to tsunami relief efforts. Researchers funded by the company then provided argumentation advancing a change in alcohol tax, presented as protective of health, although the proposal would have resulted in an effectively lower tax rate for the company. While the tax system was never changed as the cabinet was dissolved, it does provide an example of how industry is able to influence tax policy using industry philanthropy (15).

Between 2020 and 2022, during the COVID-19 pandemic, several industry donations were made to support health-care workers or provide personal protective equipment or hand sanitizer. In **Guatemala**, Am Bev made a contribution towards hospital equipment. In **Ghana**, a local brewery donated reusable face coverings to bar staff, in addition to another 3000 masks to the Ministry of Tourism. Thousands of protective face coverings made from recycled polyethylene terephthalate (PET) bottles and beer crates were donated by the alcohol industry in **Colombia** and **South Africa**. There are also recorded incidences of industry bodies donating hand sanitizer (a common non-pharmaceutical intervention during the COVID-19 pandemic) in **Brazil**, the **Caribbean**, **Kenya**, **India**, **Italy**, **South Africa** and the **United Kingdom** (31).

The literature also indicates that, in some contexts, the legality of financial incentives offered by some alcohol industry actors has been questionable. An analysis of one transnational brewer’s influence over government officials in the **Democratic Republic of the Congo** reports evidence of financial inducements being given to government officials in ministries of finance and economic affairs to secure cooperation (14). In 2011, another transnational brewer was charged in the **United States**, having reportedly made illicit payments to government officials in **India**. Similar violations were reported in both **Thailand** and the **Republic of Korea**, and the company was reported to have made payments in settling the investigation (32).

7.2.3 INVOLVEMENT IN POLICY DEVELOPMENT

The industry's role in drafting proposed regulation is either direct (through involvement in drafting the policy), or indirect (through involvement in the decision-making process). Direct involvement in policy initiatives includes, for example, proposed national alcohol policy initiatives led by a multinational brewer and an industry-funded social aspects/public relations organization in **Botswana, Lesotho, Malawi** and **Uganda** to exclude tax and pricing measures – instead, promoting ineffective interventions around education and awareness-raising (33). In the **Caribbean**, it has been reported that alcohol industry associations representing distillers in the region work closely with the Caribbean Community Secretariat (CARICOM) – an intergovernmental organization consisting of countries in the region, with the goal of economic integration and foreign policy coordination (16).

Industry pricing strategies may reduce the effectiveness of tax policies. For example, an analysis of tax pass-through for alcohol products in **England, United Kingdom**, shows significant differences across the price distribution when retailers appeared to under-shift tax increases (increasing the price by less than the tax increase) on cheaper beverages, which they subsidized by over-shifting tax increases (increasing the price by more than the tax increase) on more expensive products (34). This strategy reduced the impact of tax increases on decreasing consumption of the targeted products. An even more extreme industry pricing strategy was employed in **India**, where the Competition Commission found evidence of several brewers operating as a cartel, using a common industry body as a platform both to collectively fix prices and to lobby on their behalf. The Commission's report found that the brewers had collaborated to “manipulate the government machinery”, operating as a cartel for more than a decade, in violation of competition law (35).

7.2.4 CONCLUSION

There is consistency between the alcohol industry and other unhealthy commodity industries – notably tobacco. This is evident in the broad similarities in the use of information, financial incentives and constituency-building strategies (13). This consistency also applies to the broad arguments developed by the tobacco and alcohol industries in opposing the use of taxes to achieve health goals. Despite the compelling evidence base regarding the effectiveness of tobacco tax as a health policy intervention, the tobacco industry has continued to advance a series of misleading claims to oppose policies that would increase prices. The longstanding tobacco industry myths that tax increases would supposedly reduce revenue, damage economies, have regressive impacts and stimulate illicit trade (36) find clear echoes in alcohol industry arguments across diverse jurisdictions, including both HICs and LMICs. These industry arguments are explored in the remainder of this chapter.

The evidence demonstrates the broad contours of corporate activity by the alcohol industry and associated actors. It suggests that alcohol industry opposition can be identified as a key barrier to the development of effective tax and pricing policies to reduce alcohol consumption and its related harms, and to promote public health. Lessons can be learned from international experiences in countering tobacco industry opposition to tax policy – specifically from measures contained in WHO’s Guidelines for implementation of Article 6 of the WHO Framework Convention on Tobacco Control (FCTC) (Price and tax measures to reduce the demand for tobacco) (37). However, when deciding on alcohol tax policies, ministries of finance need to consider all social and economic impacts of their policies in addition to the government’s priorities.

7.3 INDUSTRY ARGUMENT 1: AN INCREASE IN UNRECORDED ALCOHOL

Key messages

- The alcohol industry often advocates against alcohol tax increases on the basis that they would result in increased use of unrecorded alcohol. Moreover, it is argued that these supposed increases in unrecorded alcohol resulting from tax increases would incur more harm to health and lead to a loss of tax revenue. Evidence shows that these arguments are exaggerated or not supported by empirical evidence. Levels of unrecorded alcohol depend on a country’s unique characteristics, alcohol consumption culture and policy environment rather than its tax policy.
- The evidence demonstrates that, even where unrecorded alcohol use is significant, effective countermeasures and mitigation strategies are available to governments. These include asserting greater control over the supply chain using fiscal markings, electronic surveillance systems and increased enforcement. In some countries where traditional alcoholic beverages are prevalent, bringing them into the commercial sector by offering financial incentives may be useful. In countries with significant cross-border shopping, limiting imports via duty-free quotas and eliminating tax-free sales may also be useful.
- **The key message for policy and implementation** is that when considering alcohol tax policy and unrecorded alcohol, the focus should be on the effect of alcohol tax increases on the total market (recorded and unrecorded) and total alcohol-related harm. While the potential for increased use of unrecorded alcohol should be considered, unrecorded consumption should not be a principal barrier to the adoption of such increases.

The alcohol industry at times states that, in reaction to increased prices of recorded alcohol, there may be a potential increase in the use of unrecorded alcohol (see Table 5.1 in Chapter 5 for definitions of unrecorded alcohol) (38, 39). Unrecorded alcohol is alcohol that is not accounted for in official statistics on alcohol tax or sales. It can broadly be grouped into five categories: 1) illegal homemade and/or artisanal alcohol (such as moonshine); 2) legal but unrecorded alcohol products (such as home-brewed beer); 3) illegal production (such as counterfeiting or smuggling on a commercial scale); 4) illegal surrogate alcohol that is consumed but is not officially intended for human consumption (such as mouthwash); and 5) alcohol products that have been recorded but not in the jurisdiction where they are consumed (as with cross-border shopping) (40).

The potential increase in unrecorded alcohol consumption, the industry argues, would occur due to the increased price differential between recorded and unrecorded alcohol (41–49). The argument continues that, as unrecorded alcohol is not subject to the same regulations as recorded alcohol, its use may incur more health harm per litre consumed; thus, tax increases may result in increases in such harm, including mortality. Finally, the industry claims that if consumption shifts from recorded to unrecorded alcohol, since the latter is not taxed, it may lead to a loss of tax revenue.

However, trade in unrecorded alcohol is not simply a tax issue but one involving broader governance challenges. For instance, the illicit alcohol market (a subset of unrecorded alcohol) has been associated with organized crime and corruption, which may fuel criminal activities in other areas (50). Illicit alcohol markets often attract both domestic and international crime syndicates (51). Alcohol smuggling in the **United States**, for example, has involved people who were also trading illegal weapons and drugs and have been associated with a terrorist organization based in the **Philippines** (52). These links are often used as an argument against tax increases by the industry. Governments need to consider the importance of strong tax administration and enforcement to maximize the effectiveness of alcohol tax and pricing policies.

This section examines the impact of alcohol tax policies on unrecorded alcohol and the range of factors other than tax policy and alcohol prices that may affect unrecorded alcohol use. It draws on several case studies of countries where there was a change in alcohol tax policies and implementation of mitigation strategies, as discussed in Chapter 5.

7.3.1 UNRECORDED ALCOHOL AND HEALTH

The alcohol industry argues that unrecorded consumption incurs more harm per litre of pure alcohol than recorded consumption does; thus, even if less alcohol is consumed overall after the tax increase, the level of harm may not decrease (53). According to these industry arguments, alcohol tax increases should be avoided or

minimized, as they inevitably lead to increases in unrecorded consumption, which also increases the burden of disease.

While unrecorded consumption by definition does not allow quality control of its ingredients by the relevant authorities, several reviews have revealed that in most cases it does not pose a threat to the burden of disease over and above the effects of ethanol, or pure alcohol (for reviews, see (54–56)). The one major exception is the addition of methanol. A systematic review based on limited available evidence estimated that fewer than 0.1% of global alcohol-attributable deaths are due to methanol. The authors speculated that these deaths are often the result of individual or regional tragedies rather than a global public health challenge (55). Other potential contamination – such as from metals or aflatoxin – may occur, but the additional risk from these contaminants has been shown to be low compared to the risk of ethanol (56). Alcohol tax and pricing policies should aim to decrease net total per capita consumption, as it is the ethanol in both recorded and unrecorded alcohol that causes the most public health harm.

Recent stories in both published literature and news accounts have reported incidents from **India** (in 2019), **Indonesia** (in 2018) and **Czechia** (in 2012) where numerous deaths were linked to consuming illicit adulterated alcohol (57, 58). However, an overview of the health impact of consuming illicit alcohol concluded that the primary dangers are a result of increased alcohol consumption rather than occasional accidental poisoning by homemade alcohol or the consumption of surrogate alcohol, which may contain toxic constituents (50).

7.3.2 THE ROLE OF UNRECORDED ALCOHOL IN ALCOHOL TAX

Unrecorded alcohol is generally considerably cheaper than recorded alcohol (56). This is particularly self-evident for cross-border shopping: people may travel to another country to buy alcohol because of the price differential between countries. Other examples include duty-free sales in airports. However, the price differential is not limited to the unrecorded category of cross-border shopping. Almost all other categories of unrecorded alcohol – with the possible exception of some boutique artisanal production of speciality wines, spirits or craft beers – have been found to be considerably cheaper than regular recorded alcohol (41–49).

The alcohol industry argues that an increase in tax would result in a further increase in this price differential, which would result in people changing demand from recorded to unrecorded alcohol use. With this principle, an increase in tax that leads to a larger price differential, all else remaining constant, would be associated with an increase in unrecorded consumption, while a decrease in tax would be associated with a decrease in unrecorded consumption. Thus, reducing alcohol taxes has been proposed by the alcohol industry as a means by which to reduce unrecorded alcohol consumption (30).

However, there is little evidence that tax increases lead to substantial increases in unrecorded consumption overall. A number of case studies (see section 7.3.3) clearly indicate that tax increases do not automatically lead to an increase in unrecorded consumption. Instead, the determinants of such a change are more likely to be the following.

- The level and price of unrecorded consumption in a particular society and the people currently consuming it are major determinants. For instance, if consumption of unrecorded alcohol in a society is legal and/or socially widely accepted behaviour (such as cross-border shopping in the **European Union (EU)**), or if it is behaviour restricted to marginalized groups in specific situations (such as the drinking of windshield wiper fluid by homeless people with alcohol dependence in the **Russian Federation (59)**), this plays a determining role in the amount of unrecorded alcohol consumption. Another example in **Thailand** demonstrated that an increase in taxes on spirits resulted in only slight increases in illegally distilled spirits, and only in communities where such distilling was common before the tax increase; the overall impact on unrecorded consumption was negligible (60).
- The availability of unrecorded alcohol products plays a significant role. If the only unrecorded alcohol available is via cross-border shopping, people living some distance from the border are less likely to buy or consume this type of alcohol (61).
- Another factor is the presence of large-scale producers of certain types of unrecorded alcohol and a legislative framework that leaves room for tax evasion and production of counterfeit alcohol, surrogates, pseudo-surrogates (products officially declared as non-beverage alcohols but deliberately produced by the industry to target heavy drinkers, such as fragrance-free colognes in the Russian Federation) and other products that are not taxed or regulated.
- The particular government's countermeasures against unrecorded consumption when it increases excise taxes for recorded alcohol are another key determinant. Annex 7.1 sets out a country example of the role of alcohol taxes in cross-border trade in Denmark, Finland, Norway and Sweden. This illustrates that, although difficult, it is nonetheless possible to maintain high alcohol taxes while at the same time balancing a lively cross-border trade in alcohol. Alcohol tax increases can be combined with lowering the indicative traveller's import quotas for personal use and transforming them into binding quotas.
- A final factor is the opportunity costs of selling illicit alcohol: weighing up the expected profit from illicit alcohol sales against the profit from other business activities. These costs are a function of the strength of governance,

the existence of clear and transparent regulatory frameworks, the level of corruption, the strength of the rule of law, the degree of effective enforcement, the capacity of judiciary systems, the utilization of adequate sanctions and the existence of informal distribution and organized crime networks (62, 63). To demonstrate the opportunity costs of the illicit alcohol business, a study in the **United States** compared the profit derived from smuggling cigarettes versus smuggling alcohol across state borders (64). Overall, the profit from smuggling alcohol was lower than that from cigarettes, even though the tax differentials between states for the two products are roughly comparable. The analysis concluded that the revenue from smuggling 2400 litres of alcohol would be roughly equivalent to smuggling 2410 cigarette packs. However, 2400 litres of alcohol is significantly heavier and bulkier than 2410 cigarette packs, entailing higher transportation costs and a lower profit rate per unit. As a result, alcohol smuggling in the United States is much less prevalent than cigarette smuggling (65).

7.3.3 COUNTERMEASURES TO REDUCE THE POTENTIAL IMPACT OF TAX INCREASES ON UNRECORDED ALCOHOL

To examine potential impacts of tax increases on the use of unrecorded alcohol, a number of case studies are presented in Table 7.1. **Lithuania** (66) and the **Russian Federation** (67, 68) are examples of countries with recent significant increases in alcohol tax that did not experience increased use of unrecorded alcohol but did experience marked decreases in all-cause mortality. **Kenya** and **Botswana** are examples of sub-Saharan African countries where high overall levels of unrecorded consumption are often cited as the reason tax increases are difficult to implement (69). In all the case studies, the public health goals have been realized. This corroborates the findings of systematic reviews and meta-analyses on this topic conducted without industry financing (70).

Overall, unrecorded alcohol consumption should be taken into consideration when designing and implementing alcohol tax policies, especially in countries where unrecorded alcohol use is already high. However, the evidence does not show that tax increases automatically lead to increases in unrecorded consumption, or that tax increases should be avoided in situations where unrecorded consumption increases might be expected. Instead, as the examples of the Russian Federation and Kenya show, countermeasures can be applied to help ensure the success of tax increases and prevent a potential shift to unrecorded consumption (see Chapter 5 for examples of these countermeasures). These countermeasures depend on the types of unrecorded alcohol available in a country.

Table 7.1. Country experiences of alcohol tax increases and unrecorded alcohol

COUNTRY/ REGION	SETTING	POLICY CHANGE	IMPACT OF THE ALCOHOL TAX INCREASE ON UNRECORDED ALCOHOL
Lithuania	In Lithuania, unrecorded alcohol consumption has been relatively low in recent years, at between 5% and 8% for all categories except cross-border shopping (71–73). In this context, it is likely that no infrastructure would have been in place for unrecorded alcohol to be produced suddenly and consumed in large quantities.	Lithuania significantly increased alcohol excise taxes in March 2017, and there was a significant reduction of alcohol-attributable mortality. Approximately 1452 deaths were avoided in the year following implementation of the tax policy (66). Alcohol excise tax revenue also increased by nearly 27% in 2017 alone (74).	While a small net increase was seen in cross-border trade with neighbouring Poland and Latvia after the tax increase, Latvia had the lowest alcohol prices of all Baltic countries (75, 76). The exact magnitude of this cross-border trading is not clear. While the Baltic governments still see a need to negotiate further about cross-border trade issues, the main public health and fiscal goals of the increase in excise tax for alcohol have been realized.
Russian Federation	Historically, the Russian Federation has had a large percentage of unrecorded alcohol consumption, estimated at times to be higher than recorded consumption (68, 77). Moreover, there are several different forms of unrecorded alcohol in the country, each with different users – often from different parts of the social hierarchy.	In 2008, a tax code was signed by the president that introduced an increase in excise duties of 10% per year (78). The country successfully implemented a number of countermeasures aimed at unrecorded alcohol to ensure that the tax increases did not result in increases of unrecorded consumption. One of the main measures was the introduction in 2006 of EGAIS, a monitoring and surveillance system (see Annex 5.5 in Chapter 5). Other measures included prohibiting sales in vending machines; introducing minimum prices for non-food products with an ethyl content of more than 28%; prohibiting the use of toxic denaturing agents; and banning the use of methanol in windshield wiper fluid (although this ban was not always enforced, leading to poisoning deaths) (59, 68).	One of the most important measures taken to reduce unrecorded consumption was the introduction of excise taxes on any products containing ethanol and the adoption of new, more effective (less toxic and more odorous) denaturing additives for industrial alcohol (79). Overall, the evidence suggests that levels of consumption of unrecorded and recorded alcohol, as well as levels of alcohol-attributable harms, have been declining since about 2005, coinciding with the introduction and enforcement of alcohol control measures for both forms of alcohol. A study using WHO mortality data, official consumption data from the Russian Statistical Services, self-reported consumption data from surveys and unrecorded alcohol estimations from peer-reviewed publications found that there has been a decline in total consumption and mortality since 2006 (78). Using production and alcohol retail data and official government statistics on mortality, one study found that alcohol-related mortality was negatively correlated to excise tax increases in 2004 and since 2012 (80). Thus, the Russian example suggests that with the right measures it may be possible to increase tax, reduce availability and reduce unrecorded consumption simultaneously.

Sub-Saharan Africa	Sub-Saharan Africa has some of the world's highest levels of unrecorded alcohol consumption (81). The alcohol industry has argued that this situation makes implementation of higher alcohol taxes unfeasible (69). During the last decade, several African countries have reduced alcohol taxes – in part for this reason (69, 82).	Kenya has increased alcohol excise taxes in recent years (83), with a preliminary evaluation showing neither substantial increases in unrecorded consumption nor decreases in government revenue (84).	While it may be too early for a definitive evaluation of the latest tax increase – especially due to the lack of systematic monitoring of unrecorded alcohol – there are no signs that levels of unrecorded alcohol consumption or alcohol-attributable harms have increased. Kenya has also taken significant steps in recent years to improve tax administration, including implementation of an advanced track and trace system (see Annex 5.4 in Chapter 5). Implementation of this system was accompanied by dramatic increases in alcohol tax revenue.
		In Botswana, a levy on alcohol was introduced in several stages starting in 2008. At its peak, the levy was 55% on the retail price of alcoholic beverages with more than 5% alcohol strength. This levy was over and above the excise taxes harmonized by the Southern African Customs Union (SACU) (see Annex 3.2 in Chapter 3 for a detailed country example on alcohol tax policy in South Africa, which provides more detail on SACU). This levy was reduced to 35% after 10 years, as a result of pressure in the media and from the alcohol industry (85).	Recorded per capita consumption decreased by 27% between 2008 and 2016; unfortunately, no empirical trend data are available for unrecorded consumption for the same period (39). There was a widespread belief that unrecorded consumption – especially smuggling – had increased for both home consumption and resale. Botswana's revenue agency noted that cases of underreporting had increased (with some economic operators declaring alcoholic beverages as soft drinks to evade the levy), alongside a possible increase in smuggling activities, in part driven by the cheaper price of alcoholic beverages in South Africa (39). Even if unrecorded alcohol consumption had increased, however, this was probably at a lower level than the decreases seen in recorded consumption, as evidenced by decreases in household expenditure on alcohol and reduced numbers of traffic collisions and fatalities (39, 86). However, causal attribution is difficult to assert (86). Nevertheless, even if unrecorded consumption increased as a result of the levy, the public health outcome seemed to be a largely positive one, as evident in the short-term indicators of a decrease in alcohol harm (namely traffic collisions).

7.3.4 CONCLUSION

With little evidence to back its claims, the alcohol industry typically suggests targeting unrecorded alcohol alone to reduce alcohol problems (38). For example, arguments that illicit production may result in toxic consequences such as methanol poisoning may be used as evidence that taxes should be limited, but this ignores

the orders-of-magnitude difference between the number of methanol poisonings per year and the morbidity and mortality associated with ethanol itself. Alcohol tax and pricing policies should focus on curbing increases in overall alcohol consumption. As discussed in Chapter 5, objective measurement of the levels of unrecorded alcohol may also present a challenge when countering alcohol industry claims about alcohol taxation and unrecorded alcohol. Annex 7.2. provides an introduction to methods of measuring unrecorded alcohol.

At approximately 25% of total consumption (87, 88), use of unrecorded alcohol makes up a sizeable and stable part of the global alcoholic beverage market. While potential increases in unrecorded consumption should be considered in substantial increases of alcohol tax, however, unrecorded consumption should not be a principal barrier to such increases. There is no evidence that an increase in tax leads to a large increase in unrecorded consumption, and countermeasures can be applied to control unrecorded alcohol if needed.

7.4 INDUSTRY ARGUMENT 2: COURT AND LEGAL CHALLENGES TO ALCOHOL TAX

Key messages

- Governments can typically levy alcohol taxes under domestic law. After ensuring that the government is acting within the scope of its powers, best practices include clearly defining tax categories based on health risk; avoiding abusive tax rates that could be considered confiscatory or challenged rather than evenly applicable; and ensuring that investment or other tax incentives are not offered in the sector. These can all help strengthen a government's legal position in the face of industry opposition.

Relative to other alcohol control measures, alcohol tax – and excise tax in particular – is a comparatively well-established regulatory measure. As a result, it is generally less likely to be contested by direct legal challenges than other alcohol control measures. Nevertheless, well-designed and sizeable tax increases may threaten industry profits and long-term sustainability, which may increase opposition through corporate activity or threatened or actual litigation, including disputes claiming breaches of trade agreements (89). Pricing policies, as described in Chapter 4, are more likely to attract legal challenges than excise tax. Particularly notable in this context is the prolonged challenge to the introduction of MP in Scotland, United Kingdom, brought by alcohol industry trade associations in Scottish courts, the European Court of Justice and the United Kingdom Supreme Court. While MP was ultimately upheld (90), the five-year legal battle imposed significant constraints on the Scottish

Government's capacity, and demonstrated the sustained political will and resources required given concerted international industry opposition to policy innovation.

This section briefly describes legal issues that may arise in the context of taxing alcoholic beverages. This is intended to assist policy-makers in designing effective tax and pricing policies that are consistent with domestic law, but it is intended neither to be legal advice nor to displace the need for legal advice.

7.4.1 EXCISE TAX AND PRICING POLICIES AND COMMON DOMESTIC LEGAL ISSUES

Laws establishing health taxes typically involve some granting of powers to the executive branch of government, detailed provisions establishing tax liability, and detailed rules governing tax collection and administration. The powers of a domestic government to levy these taxes differ from one jurisdiction to another, making it difficult to generalize about the nature and extent of those powers. However, despite differences in legal systems and approaches, some common domestic legal issues may arise in the context of health taxes, including whether:

- a government is acting within the scope of its powers or not;
- a tax results in unequal treatment before the law or is discriminatory;
- tax rates are confiscatory, and interfere with the right to property.

7.4.2 BEST PRACTICES TO STRENGTHEN THE LEGAL POSITION OF IMPLEMENTING EXCISE TAXES

Domestic law defines the powers of government to levy taxes. These are typically set out in a combination of the national constitution, subnational constitutions and legislation. These legal instruments may allocate the authority to levy taxes to a national government, a subnational government or a combination of the two. They may also allocate authority to the executive branch of government – such as to adjust tax rates or tax administration arrangements. In this context, questions sometimes arise as to whether a government is acting within, or exceeding, the scope of its powers. For example, in 1997 the High Court of Australia struck down state-based excise taxes on grounds that the federal government had the exclusive power to levy such taxes.⁵¹

Similarly, questions may arise with respect to whether a specific product falls within a given category of taxed or excisable products, as defined in tax laws. For example, new beverage combinations with characteristics common to different

⁵¹ See, for example, *Ha v New South Wales* (1997) 189 CLR 465, where the High Court of Australia ruled that Australian states lack the constitutional power to impose excise taxes.

product categories may raise questions about which category they fall in. This is most likely to occur where taxes differ across product categories, creating an incentive for economic operators to argue that their products should be classified in a category that is subject to lower tax rates.⁵² Owing to the substantial differences across, and even within, alcoholic beverage categories, this is an area of particular concern for alcohol taxes. This issue can be addressed in legislative design by defining product categories based on factors such as alcohol per volume, rather than customs codes or other statutory definitions of different product categories. Frequently, however – for reasons of political economy and enforcement – governments opt for the latter approach, which leaves room for legal questions around classification.

Very occasionally a tax may also be challenged on constitutional law grounds, such as on the basis that unequal taxation violates principles requiring equal treatment before the law (such as equal treatment between comparable products or economic operators). These types of constitutional protections do not exist in all countries but are present in the United States Constitution and other national constitutions heavily influenced by United States constitutional traditions. Most national constitutions also protect the right to property. For the most part, however, principles relating to equal protection do not require equal taxation of different categories of alcoholic beverages, or equal taxation of alcoholic beverages compared to non-alcoholic beverages. Nor do alcohol taxes ordinarily violate the right to property, provided they are not targeted at a specific firm and are not confiscatory.

Another legal issue that arises from time to time is whether taxation is consistent with legal commitments made directly to economic operators, such as tax exemptions in place through state contracts. For example, countries may commit to provide long-term tax holidays to a multinational beer producer. It is difficult to generalize about these situations, other than to say that the government's legal position can be strengthened by avoiding offers of investment or other incentives in the context of products that are the subject of health taxes.

In summary, a handful of best practices can help strengthen the legal position of a government regarding the levying of taxes. These include ensuring that the government is acting within the scope of its powers, clearly defining tax categories (for example, on the basis of alcohol by volume), avoiding abusive tax rates and ensuring that investment or other tax incentives are not offered in the sector.

52 For example, the amount of litigation on this subject in EU Member States implementing Directive 92/83/EEC before it was amended by Council Directive (EU) 2020/1151 was substantial. For the litigation see Case C-150/08: *Siebrand BV v Staatssecretaris van Financiën*; C-532-14 & C-533-14: *Toorank Productions*; *Diageo North America, Inc & Anor v Intercontinental Brands (ICB) Ltd & Ors* [2010] EWHC 17 (Ch) (19 January 2010).

7.4.3 CONCLUSION

Although generalization about tax regulations in different countries is limited, some good practices can strengthen a government's position in the event of legal challenges.

In the domestic law context, these include ensuring that the government – whether a legislative or executive branch – is acting within the scope of its powers, clearly defining tax categories, avoiding abusive tax rates that are confiscatory rather than evenly applicable, and avoiding the granting of investment incentives or other legally binding tax exemptions in the alcohol sector.

In the context of international law, good practices include using domestic taxes – particularly excise – rather than import tariffs for health purposes. Other best practices include considering any specific obligations or commitments relating to harmonization of excise or other domestic taxes, as well as tax administration, that may arise under a customs union, and ensuring that tax differentials between different categories of alcoholic beverages are justifiable by reference to the relative health risks posed by those product categories.

7.5 INDUSTRY ARGUMENT 3: ANTI-POOR RHETORIC OR REGRESSIVITY

Key messages

- **The key message for policy and implementation** is that the alcohol industry argues that excise taxes on alcoholic beverages are anti-poor and regressive, based on traditional approaches to measuring the welfare and distributional effects of alcohol tax increases, but this argument does not take into account the “alcohol harm paradox” – a term that refers to the disproportionate harm per litre for poorer consumers of alcoholic beverages.

The alcohol industry and its affiliates have in the past tried to counter and lobby against tax increases by claiming that these policies are regressive and, therefore, more harmful to poorer population groups (91). A tax is considered regressive if socioeconomically disadvantaged groups spent a larger portion of their household income on that tax than more advantaged groups. In other words, regressive taxes impose a disproportionately heavier tax burden on poorer people. However, this perspective is shortsighted, given that alcohol and other products like tobacco and sugar-sweetened beverages are unlike many other taxable goods. Questions about implementing health taxes should not only focus on the topic of regressivity but also take into account their impacts on health effects, health-care costs and broader social and economic factors (92).

Health taxes need to be considered within the context of the inequitable burden of alcohol-related diseases. In most countries, the health burden associated

with the consumption of alcohol is regressive, and premature mortality is borne disproportionately by poorer population groups. While alcohol consumption is higher among households with higher socioeconomic status, the harm of alcohol consumption is borne disproportionately by those with lower socioeconomic status. This disproportionate so-called harm per litre for poorer consumers is referred to as the “alcohol harm paradox” (93).

Many explanations have been proposed for this paradox, including various individual and contextual factors. For instance, a contextual factor might be that there is less public health infrastructure in poor or disadvantaged communities – sometimes referred to as neighbourhood deprivation (94). There is often also a higher density of alcohol establishments in these neighbourhoods, which is linked to higher alcohol consumption and harm (95). An epidemiological model in **England, United Kingdom**, analysing the impact of four alcohol pricing policies on 43 alcohol-attributable diseases found that alcohol-content-based tax and minimum unit pricing would lead to a larger reduction in health inequalities across income groups than an ad valorem tax increase (96).

These disproportionate alcohol harms impose a financial burden on poorer groups for treating alcohol-related conditions (92). The burden includes the costs of medicines, outpatient visits, transport, diagnostics and hospitalization, which need to be paid out of pocket if they are not covered by insurance. If patients are not covered by either public or private health insurance, these alcohol-related health conditions may result in catastrophic health expenditure, which can have an impoverishing effect on individuals. A systematic review of the financial consequences of 13 noncommunicable diseases in LMICs found that poorer households were more likely than wealthier households to incur catastrophic health expenditure (97). A modelling study on the impact of a minimum unit pricing policy on alcohol in **South Africa** estimated that the policy would result in 46% of catastrophic health-care expenditure averted among the poorest 40% of the population (98).

7.6 INDUSTRY ARGUMENT 4: REVENUE REDUCTION

Key messages

- The alcohol industry and its affiliates argue that alcohol tax increases result in reduced tax revenue for the government.
- Alcohol taxes have significant revenue scope and potential.
- **The key message for policy and implementation** is that empirical examples show that increases in tax rates result in increases in alcohol tax revenue. Furthermore, alcohol tax revenue is resilient, and provides governments with important, predictable and stable revenue streams.

An argument used by the alcohol industry and its affiliates in their efforts to lobby against alcohol taxes is to claim that the tax policies would not raise the expected amount of government revenue or might even negatively affect revenue yields due to down-trading to cheaper products and illicit products. This argument is closely connected to the first industry argument on unrecorded alcohol, given that one of the reasons given for a loss of revenue is a supposed increase in unrecorded alcohol resulting from the tax increase. For instance, this was the strategy used by the Hong Kong Wine Industry Coalition (consisting of 11 wine manufacturers) to argue against a proposed alcohol tax increase in **Hong Kong SAR** in 2002. The Coalition warned that the proposed target of 70 million Hong Kong dollars (US\$ 9 million)⁵³ in government revenue would not be attained. In addition, it warned that the tax increase would result in a loss of government revenue, as consumers would just cross-substitute cheaper alcohol after the tax increase. Over a two-year period, Hong Kong SAR went from having relatively high alcohol tax to a duty-free alcohol zone (27).

The impact of tax on consumption, health and success in collecting government revenue depends on the tax design (Chapter 3) and administration (Chapter 5). Alcohol tax is a tool of both public health and fiscal policy, and is used to reduce alcohol-related harm, generate revenue and support expenditure. The political economy of alcohol taxes cannot be fully understood without considering its fiscal policy framing. This is because adoption and implementation of alcohol taxes occur through government systems and institutions that are tasked with setting broader economic and fiscal policy priorities, collecting and administering taxes, and budgeting and allocating resources. Attention paid to the dynamics and requirements of these systems and institutions becomes even more relevant when there are considerations around earmarking alcohol tax revenues.

Country experience shows that alcohol taxes can generate additional revenue. This section highlights these experiences, as well as the relationship between tax increases and tax revenue.

7.6.1 REVENUE POTENTIAL OF ALCOHOL TAXES

Taxation is critical for countries to be able to meet their policy objectives and obligations. Taxes fund government services (including health, education and infrastructure), facilitate inclusive economic growth and reduce poverty, while addressing rising debt levels and other macroeconomic challenges (99). However, for many LMICs, tax revenue collections remain persistently below the 15% of gross domestic product (GDP) level that is critical to meet the most pressing developmental needs.

⁵³ Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 7.8 Hong Kong dollars (2002).

It is estimated that several trillions of dollars are needed worldwide to invest across all sectors to meet the Sustainable Development Goals (SDGs) (100, 101). Although all tax revenue is of significance for serving these purposes and closing fiscal gaps, alcohol taxes are most impactful as investments in equity and the welfare benefits that result from reducing alcohol consumption.

Various estimates have highlighted the revenue potential of alcohol taxes at a global level. Excise tax revenue as a percentage of total tax revenue remains relatively low, and there is scope to increase this. During 2019, the average excise-tax-to-GDP ratio (including alcohol, tobacco, fuel and sugar) in Organisation for Economic Co-operation and Development (OECD) countries was 2.3% (compared to 6.7% for value-added tax and 11% for income, profits and capital gains tax) (102). Excise duties as a percentage of total tax revenue in OECD countries marginally declined from 10.5% to 7.2% between 1975 and 2018 (103). Alcohol excise taxes contributed 5.05% in **Mauritius** and 5.5% in **Seychelles** to total tax revenue in 2019 (104). In 2015, alcohol revenue contributed 2.7% (**Estonia**), 4.6% (**Finland**), 2.5% (**Iceland**), 1.5% (**Norway**), 0.6% (**Spain**), 1.6% (**Sweden**) and 3.1% (**United Kingdom** and **Northern Ireland**) of total government revenue (105). The Bloomberg–Summers Task Force for Fiscal Policies for Health highlighted that alcohol taxes have particularly significant revenue potential (106). Globally, a 20% increase in real prices of alcohol induced by a one-time tax increase could raise up to US\$ 10.0 trillion, and a 50% increase up to US\$ 20.4 trillion additional tax revenue over a 50-year period in 2018 terms, with US\$ 5.5 trillion and US\$ 11.1 trillion accruing to LMICs.

Several countries have shown that deliberate and significant increases in alcohol excise taxes can yield large increases in revenue. As presented in the country example in Annex 3.2 in Chapter 3, South Africa provides an important example of a well-designed alcohol tax policy. Since the early 1990s, South Africa has consistently increased excise tax rates on alcohol, with commensurate increases in tax revenue. Box 7.1 describes in detail these increases in tax revenue, by product, over a long period. The lesson from the South African example is clear: increases in excise tax rates result in increases in tax revenue. The larger the magnitude of the tax increases, the larger the increases in tax revenue. Moreover, declines in tax rates are most often associated with declines in tax revenue. However, it must also be remembered that South Africa has a well-designed tax structure that relies on specific taxes, which are associated with more stable revenue but are also more likely to result in increases in revenue as tax rates increase.

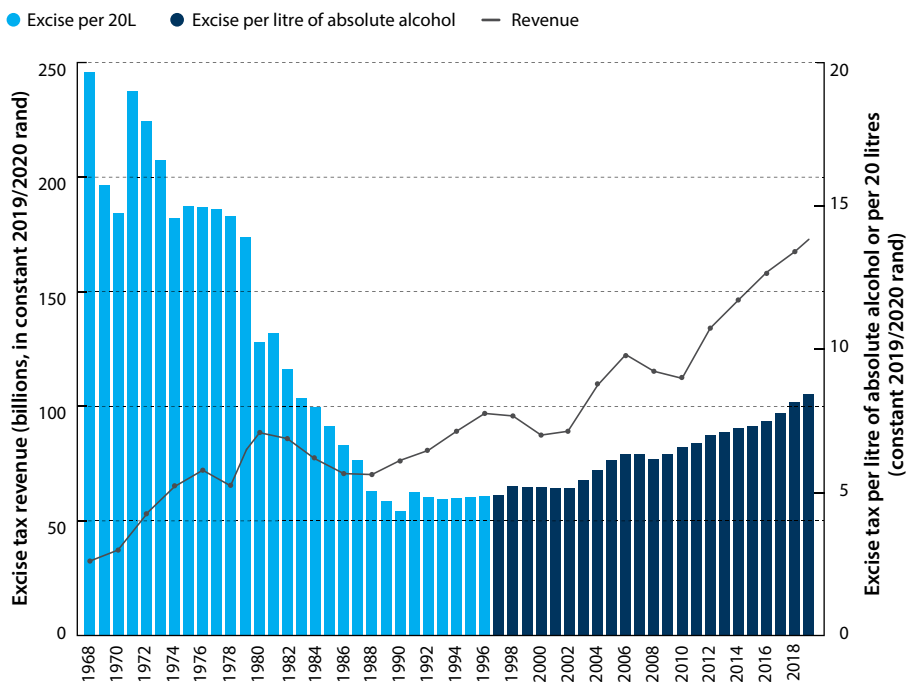
Box 7.1. Excise tax revenue in South Africa

Evidence from South Africa provides a good example to counter the alcohol industry's argument that an excise tax increase results in a decline in government revenue.

Fig. 7.1 shows the real excise taxes per litre (represented by the bars) and tax revenue (represented by the line) for beer between 1968/1969 and 2018/2019. The 2020/2021 fiscal year is excluded due to distortions from the COVID-19-related alcohol sales bans in South Africa. Between 1968/1969 and 1997/1998, South Africa levied a volumetric/unitary specific tax on beer, switching to an alcohol-content-based specific tax in 1998/99.

A pattern appears of consistently increasing real excise tax revenues, although this was not always caused by increases in excise tax. In the late 1960s through to the early 1990s, real excise tax per litre was declining, although with some volatility. However, since the early 1990s real excise taxes per litre (later per litre of absolute alcohol) have increased consistently. Between 1990/1991 and 2019/2020 real excise tax revenue increased by an average of 3.0% per year, which coincided with an average annual increase in taxes of 0.8% per year between 1990/1991 and 1997/1998 and 2.4% per year between 1998/1999 and 2019/2020. A similar trend appears for other alcoholic beverages in South Africa, including wine and spirits.

Fig. 7.1. Beer excise taxes and tax revenue in South Africa, 1968/1969 to 2019/2020



Note: For the purposes of comparison, the pre-1998/1999 excise tax is calibrated to the excise per 20 litres, on the assumption that the average alcohol by volume of beer is 5%.

Source: National Treasury of the Republic of South Africa (107).

7.7 INDUSTRY ARGUMENT 5: IMPACT ON EMPLOYMENT

Key messages

- Governments seeking to raise alcohol taxes need to be aware of the industry's tendency to overestimate the impact of alcohol taxes on employment. Alcohol industry-sponsored research often predicts that higher alcohol taxes would cause job losses. These studies are often flawed, and governments should not be swayed by them.
- Evidence suggests that raising alcohol taxes or adopting pricing policies would have a gradual and relatively small impact on employment in the alcohol sector.
- Employment in the alcohol sector is highly affected by technological change that is already reducing labour intensity. Furthermore, employment effects vary from country to country, and even within countries, due to regionalism in alcohol production. Employment is also sensitive to global trade, and is affected by the export and import intensity of different types of alcohol, as well as global demand.
- Governments concerned about job losses could promote policies to reduce the costs associated with transitional job losses. However, these costs are likely to be relatively small, slow to occur and outweighed by the savings resulting from reduced alcohol harm.
- **The key message for policy and implementation** is that the relationship between tax and employment is complex and often overstated by industry as an argument to deter alcohol tax and pricing policies. Countries should do their own monitoring and evaluation of the potential impact of an alcohol tax policy on the labour market.

Higher alcohol taxes and pricing policies have the potential to cut alcohol consumption and, therefore, the number of alcohol-related jobs in the agricultural, industrial, retail and hospitality sectors (110). The alcohol industry often highlights the issue of employment when seeking to avoid or delay alcohol tax and pricing policies. Such claims raise concern among policy-makers and the general public (24, 108, 109).

This section provides an analytical framework for assessing the impact of higher alcohol taxes and pricing policies on employment, and summarizes the most recent empirical evidence. It also touches on issues related to labour productivity and its impacts on employment in both the alcohol sector and other related sectors of the economy.

7.7.1 BACKGROUND

The alcohol industry assessments of its contribution to employment are grossly exaggerated. The industry shies away from providing a global employment estimate, primarily because its lobbying targets are local. However, the degree of overestimation is evident from country examples. Independent estimates in the **United Kingdom** show that the alcohol industry is responsible for 770 000 jobs – around 2.5% of all employment – of which the vast majority (506 000) are indirect jobs in pubs, clubs and bars (110). Excluding these indirect jobs would reduce the number of jobs provided by the alcohol industry to 0.85% of total employment in the United Kingdom. Meanwhile the industry claims a total of 1 486 000 jobs, of which 898 000 are in the beer and pub sector (111) and 588 000 in the wine and spirits sector (112). The industry estimate is double the independent estimates with the service sector jobs included.

A 2006 industry-commissioned study estimated that more than 2 million jobs in the **EU** depend on the beer industry, although only 128 800 of these jobs were attributed to direct employment in the brewing sector, while 423 000 indirect jobs were counted in the retail, agriculture, distribution and packing sectors. The majority of the jobs (1.5 million) were in the hospitality sector (113). However, considering employment in the hospitality sector as possible collateral for the effects of alcohol tax and pricing policies is misleading, given that in most cases these jobs are not directly dependent on alcohol demand.

The reason for such large discrepancies is that the industry studies count both direct and indirect jobs – and even induced jobs (those created by money spent by people employed in the alcohol sector) – and they count the total number of employees rather than their full-time equivalents. This is particularly important for the wine sector, in which many jobs have a seasonal character and are therefore not full-time jobs. The gap between full-time equivalents and the number of employees partly engaged in the alcohol sector becomes especially pronounced in small-scale operations in LMICs. For example, about 20–30% of rural households in **Botswana** brew traditional beers and sell 90% of their production (114). This does not mean that all these households are fully employed in the alcohol sector; they are simply supplementing their income.

This methodology is flawed, and it grossly overestimates the number of jobs supported by the alcohol industry – which is why the industry insists on using it. It serves the industry's lobbying purposes, helping it to influence policy-makers who can justify their support for alcohol production and consumption on the grounds of job creation (109). Some policy-makers may even turn a blind eye to illicit alcohol production because of its perceived role in job creation (51).

It is important to bear in mind that higher demand for alcohol does not always translate into more jobs. Even though the global alcohol market was experiencing a

boom prior to the pandemic, the sector has not absorbed the equivalent amount of labour due to the higher market shares of multinational companies, who manage to exploit economies of scale in both the brewing and wine industries (115–117). This factor, combined with technological advances, suggests a declining future trend in global employment in alcohol-related sectors, even though the impact is likely to be uneven across sectors and across countries. For example, **United Kingdom** brewers experienced a decline in employment associated with productivity increases, which fell more heavily on specialized brewing labour than on administrative and clerical staff, whose skills are more transferable (118). Employment in **Swedish** breweries also declined partly due to a continual streamlining process (119). Moreover, the majority of jobs in the retail and hospitality sectors are not linked to alcohol, and also are not subject to the same level of productivity gains as the manufacturing and agricultural sectors (120).

There is evidence that LMICs are especially vulnerable to the growing power of multinationals. The privatization of a brewery in **Ghana**, for example, resulted in more capital investment but also a 50% reduction in employment in that brewery (121). However, the hardest-hit sector is indigenous beer brewing, with implications for lower-income and female small business owners. In **Zambia**, small-scale, women-owned beer production was replaced to a great extent by larger, more efficient beer production in urban areas, as well as by imported beer (121, 122). Small-scale wine producers are not spared from this trend either. In **Chile**, technological changes resulted in higher labour productivity and fewer jobs in the wine-making sector (123).

Looking ahead, the size of the alcohol market is expected to recover by 2024 from the estimated decline of about 20% in 2020 (115). The pandemic that resulted in many job losses hit the alcohol sector particularly hard – especially its on-trade (bars, restaurants) business. Whether the recovery of the sector will be accompanied by proportional job gains is still unclear.

7.7.2 ANALYTICAL FRAMEWORK

This section describes the analytical framework for assessing the impact of tax changes on employment. It includes the impact of tax changes on factor mobility, increased demand in other sectors and labour productivity. It also considers a range of country-specific factors that determine the extent of the impact on employment.

7.7.2.1 Supply and factor mobility

The overall level of employment in the economy is determined by macroeconomic conditions, not adjustments in the tax rates in specific industries (124). When evaluating the impact of tax and pricing policies on employment, it is crucial to distinguish between job losses and worker displacement. Tax and pricing policies could cause

permanent job losses in the alcohol industry, but research suggests that the displaced workers would almost certainly find employment elsewhere eventually (125). This is because, in a dynamic economy, production inputs – including labour – are constantly shifting between sectors due to interactions between supply and demand. An assessment of the effects on the economy of any public policy measure, including higher alcohol taxes, needs to take those dynamics into account. For example, higher tax on wine in **Australia** could lead to a small employment loss in the wine sector (0.5–6.8%, depending on the tax scenario), but this loss would be offset by an increase in employment in the industries taking over the irrigated regions formerly used for wine (125).

7.7.2.2 Increased demand in other sectors

Lower demand for alcohol in response to higher taxes would reduce expenditure on alcohol, making it available for the purchase of other goods and services or for saving. This could result in a positive net effect on employment if the spending shifts towards more labour-intensive sectors of the economy, such as services (120). For example, if the reduced expenditure on alcohol is shifted to tourism (or other services), the hospitality and advertising sectors would expect to experience higher demand from the tourist sector. This expenditure-substitution process is similar to the one produced when tobacco consumption is reduced after tax increases, which is confirmed by empirical evidence in the case of tobacco (126, 127).

Nonetheless, the problem of transition can be difficult for those directly affected – particularly for people with limited transferable skills or capital. This poses challenges of political economy, because the reductions in employment in the alcohol sector – even if driven by the industry itself (for example, by using less labour-intensive processes or by over-shifting tax increases) and not by higher alcohol tax – are highly politicized by the industry (120). In contrast, gains elsewhere in the economy are diffuse and harder to identify specifically.

7.7.2.3 Alcohol consumption and labour productivity

The overall level of employment in the economy is closely related to labour productivity. Alcohol use compromises labour productivity – and therefore the level of unemployment – through multiple channels. Since alcohol consumption damages health, it may also increase absenteeism, lead to poorer performance and shorten the career length of a person who consumes alcohol, with negative consequences for lifetime income. In addition, prenatal exposure to alcohol, parents' harmful alcohol use and early-age drinking adversely affect educational performance and may lead to drug abuse and risky sexual behaviour. This reduces human capital formation, harms future labour productivity and wages, and leads to higher unemployment and greater dependence on welfare (50, 128, 129).

Therefore, better health resulting from reduced alcohol consumption would result in additional job creation. However, there could be some friction costs in the short term, which can include time off work between jobs and the costs of hiring and (re)training (125).

Table 7.2 summarizes the factors that countries should consider when estimating the impacts of a tax increase on employment. Variations in these factors across countries will determine the role of alcohol tax on employment, which needs to be established empirically.

Table 7.2. Factors to consider when quantifying the impacts of alcohol taxes on employment

FACTOR	DESCRIPTION	EMPLOYMENT EFFECTS OF TRANSITION TO LOWER ALCOHOL CONSUMPTION
Variations by product types and geographical regions	Employment effects of reduced demand for alcohol vary for different alcohol products, as well as for different regions within a country. For example, wine-making is more labour-intensive than spirit-making, and production of these items tends to be localized.	Some regions could experience a net employment loss, while others would see an increase in employment. However, many of the job losses would be temporary and relatively small, given the small share of alcohol-related jobs in overall employment and the dynamic nature of the economy (120).
How alcohol-specific investments are in the sector	Investment in agriculture, manufacturing and the service industries may not be exclusive to alcohol, which would make the transition easier for them.	<p>Some agriculture produce used for alcohol production, such as malting barley, could be redirected to a variety of other uses. The transition could be challenging for those who produce grapes or hops that are used predominantly for alcohol production, for example, even though some farmland devoted to these plants could still be used for alternative crops.</p> <p>Those who manufacture equipment for the alcohol industry could retool and supply other sectors.</p> <p>Bars and specialized alcohol stores would be more affected. However, the labour in these sectors is primarily low-skilled, and thus has relatively lower transition costs to other jobs.</p>

<p>Economic factors:</p> <ul style="list-style-type: none"> • magnitude of the change in demand for alcohol • speed of market adjustment to a new equilibrium 	<p>The extent to which the demand for alcohol is reduced and how quickly the market adjusts to these changes determines the extent and direction of employment effects.</p>	<p>The empirical evidence points to small and gradual changes in demand for alcohol at the country level in response to changes in tax and pricing policies.</p> <p>For example, a 1% reduction in beer output in the United Kingdom would lead to a 1% decrease in brewing employment in the long term, but only a 0.4% decrease in employment in the first quarter following the drop in output (118). The speed of change would allow sufficient time for the transition of employees to other sectors experiencing higher demand due to the shift in consumer expenditure.</p> <p>The speed of the transition also depends on the business cycle: it is likely to be faster during an economic boom than an economic recession.</p>
<p>Import/export dependency of a country's alcohol production and consumption (120)</p>	<p>Countries that are net importers are likely to benefit from the employment impacts from an alcohol tax increase.</p> <p>The top net importers of wine are, in order, the United States, China, Japan, Canada, the United Kingdom, Germany and the Kingdom of the Netherlands (129).</p>	<p>A country that is a net importer is likely to see an improved balance of trade from both a global and a domestic decline in alcohol consumption.</p> <p>This can have a positive impact on employment, as the switch of expenditure to other goods and services tends to boost the domestic economy and local jobs.</p>
	<p>Countries that are net exporters of alcohol may experience mixed employment impacts from an alcohol tax increase, with differing results in their domestic and global markets.</p> <p>The top net exporters of wine are, in order, Chile, Australia, New Zealand, France, Italy and Spain (130).</p>	<p>A country that is a net exporter is likely to experience a negative impact from a global decline in alcohol consumption, particularly if there is no available alternative use for the land and labour. However, very few countries depend on alcohol exports to the extent that this impact can be significant (120).</p> <p>Policies that reduce domestic alcohol consumption in a net exporter country would have a lesser effect on the domestic industry, given the partial dependence on foreign markets. However, a significant reduction in the domestic market may reduce the economies of scale and thereby increase unit costs, which could reduce competitiveness on the global market.</p> <p>Alternatively, lower domestic consumption may motivate exports and suppress the prices of exported products. This could lead to higher demand for alcohol products elsewhere (120, 131).</p> <p>Since any reduction in both global and domestic alcohol markets following the implementation of demand-reducing policies would be gradual and accompanied by a shift in consumer spending to other goods and services, overall employment would be affected in only a limited way (120).</p>

7.7.3 MODELLING THE IMPACT OF ALCOHOL TAX AND PRICING POLICIES ON EMPLOYMENT

Evidence suggests that raising alcohol taxes or adopting pricing policies would have a gradual and relatively small impact on employment in the alcohol sector. Most of the evidence is based on economic modelling.

The OECD estimates that a 10% price increase as result of a tax increase would reduce alcohol consumption by 4–7%, while adding up to 1 180 000 workers each year to the workforce of the 48 countries covered by the report (125). These calculations take into account a change in labour productivity – specifically, a change in missed days of work due to illness, being less productive and having fewer productive years due to early retirement. Most of this effect would come from an increase in employment rates (809 000 workers), followed by reductions in presenteeism – when employees are physically present at work, but are not fully functional due to illness or injury – (267 000 workers) and a reduction in absenteeism (122 000 workers). Further, implementation of an MP policy that would reduce alcohol consumption by 0.6–3.3% could add another 1 040 000 jobs. On a per capita basis, the tax would have a stronger impact on employment and productivity than MP. Implementing these policies is expected to result in substantial economic gains: US\$ 31 billion for the tax policy and US\$ 28 billion for the MP policy, adjusted for purchasing power parity.

A modelling study in the **United States** estimated that a 10% reduction in alcohol expenditure would reduce revenues of specialized alcohol stores by 9% and bars by 8%. Turnover in restaurants (1.7%), convenience stores (1.2%), supermarkets (<0.5%), hotels (<0.5%) and limited-service restaurants (<0.5%) would decline by significantly smaller amounts (122). The lower alcohol expenditure would translate to about 115 000 job losses in the entire United States alcohol sector (about 0.2% of jobs in the retail sector and about 0.9% of jobs in hotels, restaurants and bars), of which many are part-time jobs. The transition costs would be higher for 35 000 jobs lost in specialized shops and bars.

At the same time, the money formerly spent on alcohol would be spent elsewhere, including in the retail sector, and this would generate new jobs. For instance, a simulation study on tobacco in New South Wales, **Australia**, found that a 25% cut in spending would result in a 0.1% drop in employment in retail, but after spending reallocation, this change would be either negligible or positive. These findings are likely to be applicable for alcohol (as cited in (120)).

Another **United States** study, modelling the overall economic impact of higher alcohol tax on employment, stressed that it is also important to account for the jobs created as a result of higher tax revenue following the tax increase (108). It estimated that tax increases resulted in net employment gains in all five states participating

in the study, when the newly collected tax revenue was allocated either to general expenditure or to health-care services.

A regulatory impact assessment of the MP policy introduced in **Scotland, United Kingdom**, in 2018 predicted that the economy would benefit from a reduction in alcohol-related absenteeism and from a reduction in the number of unemployed people, driven largely by fewer heavy drinkers becoming unemployed (132). For a minimum price of £0.50 (US\$ 0.65)⁵⁴ per unit, there would be around 1300 fewer unemployed people and around 32 300 fewer sick days per year. The largest reduction in sick days would be among harmful drinkers (men consuming more than 50 units⁵⁵ and women consuming more than 35 units per week). The cost of sick days was estimated to decrease by around £3 million (US\$ 3.9 million) and the cost of unemployment by £32.1 million (US\$ 41.9 million) in the first year after implementation. The long-term cost of sick days and unemployment was estimated to fall by around £292 million (US\$ 380.7 million) over 10 years. The preliminary data show that, on average, MP had very little direct impact on facility openings and closures or staffing (133).

An example from **Sweden** demonstrates the impact of international trade on domestic employment in the alcohol sector. From the mid-1990s, locally produced beer was losing market share to imported beer and to lower beer prices in neighbouring countries. The decrease in domestic production of beer led to the closure of the two largest breweries in Sweden and some job losses. The industry claimed that employment in the brewing industry dropped by about 40% (or by about 1900 jobs), but it counted both directly and indirectly affected jobs (119). Even though the actual job losses were probably lower, jobs were still lost due to the competition with imports. Nevertheless, some job losses were also attributable to improved productivity in the brewing industry.

Alcohol use can also affect employability, since people with addiction are often disadvantaged by too much time spent out of the labour force and related morbidity (such as from alcohol-related injuries) (50). In addition, alcohol-related traffic accidents cause widespread delays in people getting to work, while time spent caring for people abusing alcohol reduces the amount of time people can spend at work (128). The cost of alcohol-attributable absenteeism in 2009 was estimated to reach between 140.6 million and 447.7 million rand in **South Africa** (between US\$ 18.1 million and US\$ 57.5 million),⁵⁶ or up to 0.02% of GDP that year.

54 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = £0.767 (2018).

55 A unit of alcohol in the United Kingdom is measured as 10 ml or 8 g of pure alcohol.

56 Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = 7.78 rand (2009).

An OECD report ascertained that, compared to other public health interventions, the impact of policies aiming to reduce alcohol use on labour productivity would be evident relatively quickly after implementation. It estimated that a tax increase leading to a 10% hike in alcohol prices would avoid alcohol-related disabilities among 168 000 working-age people in **Germany** (0.39% of its labour force), 45 000 in **Czechia** (0.84% of its labour force) and 53 000 in **Canada** (0.29% of its labour force) every year (136, 137).

7.7.4 CONCLUSION

Governments seeking to raise alcohol taxes and/or adopt pricing policies need to be aware of the industry's tendency to overestimate the impacts of those measures on employment. In addition, employment in the alcohol sector is highly affected by technological change that is already reducing labour intensity.

Investigations of alcohol sector data confirm findings from similar studies of the tobacco and sugar-sweetened beverage sectors, which show that employment declines resulting from tax and pricing policies within the affected industries would be offset by employment increases in the rest of economy. This is because the lower demand for alcohol would translate to more money being spent on other goods and services, which would create new jobs and promote labour productivity gains. Therefore, the long-term impact on overall employment is likely to be neutral or slightly positive, especially if the expenditure shifts from alcohol towards more labour-intensive sectors. The costs that should be considered, however, are the transitional costs in the medium and short term. These are likely to be relatively small, given the expected slow decline in alcohol demand in response to tax and pricing policies. At the same time, any transitional costs will be outweighed by the cost reductions associated with lower alcohol consumption (120).

Alcohol industry-sponsored research often predicts that higher alcohol taxes would cause job losses. However, these studies do not account for the shift in consumer expenditure, and they exhibit other serious methodological flaws. Nevertheless, the industry still manages to organize opposition to higher alcohol taxes on the grounds of employment losses. To address these concerns, it is important to disseminate the scientific evidence widely and expose the industry's role in job losses. At the same time, governments should promote the development of economically sustainable alternatives for those affected by the policies to reduce the costs associated with transitional job losses. Governments can find support for their efforts among companies in the non-alcohol private sector, since such firms have an inherent interest in improved labour productivity due to lower levels of alcohol consumption and less absenteeism.

7.8 INDUSTRY ARGUMENT 6: MISREPRESENTATION OF HEALTH INFORMATION

Key messages

- The industry has adopted several disinformation strategies to create a narrative that, drunk responsibly, alcohol is harmless. This misrepresentation of health information includes funding and shaping scientific information campaigns through various actions.
- **The key message for policy and implementation** is that actionable steps in global governance – at a local policy level and among researchers, civil society organizations and research institutions – can be taken to ensure transparency in alcohol-related research and alcohol policy-making.

The alcohol industry creates disinformation through the misuse of knowledge or the funding of scientific research (136). In doing so, it contributes to shaping the evidence base on many issues related to alcohol control, including the health consequences of alcohol consumption (26). Some of the actions to create disinformation include commissioning, writing or disseminating research; preparing position papers, reports or impact studies; and omission of evidence or careful selection of evidence and removing potentially conflicting phrases – all with the intention of supporting the interests of the industry (26).

7.8.1 FUNDING AND SHAPING SCIENTIFIC INFORMATION CAMPAIGNS

The industry-founded International Center for Alcohol Policies (ICAP) think tank has been used to create a voice for the alcohol industry in the public health space. ICAP has been prolific in its research outputs, including book-length collections, monographs, briefing papers and issue reports, reviews of issues in alcohol policy, peer-reviewed journal articles and special issues, and working papers, policy guides and policy toolkits. The number of outputs produced by ICAP far exceeds the numbers produced by public health organizations like WHO, but they draw opposite conclusions to WHO products, and tend to support industry interests (137).

Part of the alcohol industry's disinformation campaigns also entail collaborating or attempting to collaborate with academics and public health institutions. In the writing of its alcohol policies and guidelines, ICAP unsuccessfully tried to recruit WHO staff who were working on alcohol-related policy to collaborate on ICAP documents. In lieu of getting these WHO staff on board, ICAP recruited staff from other non-alcohol-related WHO departments and regional offices, and retired WHO officials. It has also been reported that the think tank recruited academics from well-respected academic institutions (137).

The industry has also attempted to shift the narrative on alcohol-related health harms by directly funding and influencing research and trials conducted by researchers. An example of this is the biased Moderate Alcohol and Cardiovascular Health Trial (MACH15). Implementation of the US\$ 100 million trial started in 2018, with approximately two thirds of the trial funded by five global alcohol producers. Researchers themselves approached the industry to attain this funding. Pressure from the media resulted in the United States National Institutes of Health investigating the trial, which eventually resulted in it being shut down in 2018. The investigation revealed that the industry had a direct role in framing the research questions and directions, and that the study was biased to demonstrate that there would be a beneficial health effect of moderate alcohol consumption. For instance, the trial design did not include enough follow-up time to detect cancer markers and health failure end-points. As such, the study was designed to illustrate a J-curve – namely, to show that health would improve at low levels of alcohol consumption. From email correspondence, it was clear that the industry would only fund the research if it supported its commercial interests. Researchers confirmed the protection of the industry’s interests, stating in email correspondence that one of their findings would be that moderate drinking is safe (138, 139).

There have been other instances of the alcohol industry directly supporting university-based researchers; this poses risks that its involvement allows it to shape the research findings to suit its commercial interests (140). It has been reported that the industry has also sponsored certain independent research funding organizations, including the European Research Advisory Board, the Alcoholic Beverage Medical Research Foundation and the Institut de Recherches Scientifiques sur les Boissons, with industry representatives on the boards of trustees (140).

7.8.2 CREATING A RHETORIC THAT MODERATE ALCOHOL CONSUMPTION IS HARMLESS

One of the key misrepresentations by the alcohol industry is the rhetoric that drinking in moderation – or “responsible drinking” – is harmless (136). The 1996 ICAP report *Safe alcohol consumption: a comparison of nutrition and your health: dietary guidelines for Americans and sensible drinking* goes as far as stating that “UK and US guidelines draw attention to the health benefits of moderate alcohol consumption” (141), thereby illustrating the alcohol industry’s interests in promoting alcohol consumption (137). The draft national alcohol policies in several sub-Saharan African countries where the alcohol industry was part of the consultation process have even stated that alcohol used in moderation plays a positive role in socialization (33). This narrative shifts responsibility away from the industry and places the onus on consumers to control their alcohol consumption (136). It also tends to focus on

particular health conditions and drinking patterns, neglecting the fact that the overall impact of alcohol consumption on population health is always detrimental.

This rhetoric is particularly evident in the link between alcohol and cancer and the manner in which the alcohol industry and related organizations have governed the narrative around this relationship. Scientific evidence has shown that the risk of developing cancer is present across the continuum of alcohol consumption levels, from moderate consumption (142). Yet a qualitative analysis of the websites and documents from 27 alcohol industry organizations found that these organizations broadly used three strategies to create a rhetoric that the relationship between alcohol consumption and cancer is more tenuous. These are denying or disputing the link with cancer – especially for moderate drinkers; distorting the relationship by misrepresenting the size or nature of the risk; and confusing the relationship by emphasizing the role of other contributing non-alcohol factors related to cancers (143).

Research on the relationship between cardiovascular health and alcohol consumption has delivered mixed results – often dependent on the research methodology used. For instance, observational epidemiological studies have shown a possible cardiovascular health benefit at low levels of consumption (144). More rigorous methodologies, including studies with randomization or that correct for misclassification bias, find less or no benefit (145–147). In the MACH15 trial mentioned above, the alcohol industry’s contribution to this discussion was to fund large-scale research that would state that moderate consumption of alcohol has a positive impact on cardiovascular health (138).

This selectiveness in evidence to present and support alcohol industry interests is evident in ICAP briefing papers on alcohol tax and pricing policies. These only review evidence that supports their preferred conclusion, rather than taking a systemic, comprehensive approach. In addition, very little methodological detail about their selection criteria is provided. Further, their results focus on debates around and inconclusiveness of alcohol tax and pricing policies research, rather than evidence-based, well-established findings. For instance, in one of these reports, ICAP states that “many researchers feel” that the evidence base on the effect of moderate alcohol consumption during pregnancy and the effect on the developing fetus is insufficient (137, 148).

7.8.3 NEXT STEPS

The WHO report *Addressing and managing conflicts of interest in alcohol control policies* sets out clear steps that can be taken to address the potential conflicts of interest in the alcohol industry and its creation of disinformation on alcohol consumption (136). The first step is global governance. International frameworks and coalitions can be effective in managing conflicts of interest and ensuring that effective alcohol

control policies are promoted and implemented. Lessons can be drawn from dealing with the conflicts of the tobacco industry in tobacco control regulations and the establishment of the WHO FCTC (149).

At a country level, policy-makers need to manage conflicts of interest by adopting internal procedures for development and adoption of national alcohol policies, limiting interactions with the alcohol industry and ensuring complete transparency in any interactions. Institutionalizing assessment of the conflicts of interest is necessary to prevent questionable interactions occurring. In addition, policy-makers may consider the possibility of regulating industry corporate and social responsibility programmes to ensure that they do not have the opposite objectives of national alcohol control policies. It is also important to develop sustainable and independent funding mechanisms to fund alcohol control policies and harm reduction initiatives, rather than rely on any alcohol industry funding or initiatives (136).

Finally, researchers, research institutions and civil society have a responsibility to take certain steps to ensure that conflicts of interest and their potential impact on health outcomes are documented and mitigated. This includes publicizing and improving conflicts of interest in peer-reviewed research and discussing the ethics of industry funding and its potential contribution to biased results.

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ANNEX 7.1. COUNTRY EXAMPLE OF ALCOHOL TAXES AND CROSS-BORDER TRADE IN THE EUROPEAN NORDIC COUNTRIES

Mechanisms and motives behind cross-border trade of alcohol

Cross-border trade is often concentrated around certain goods, either because these are available only on the other side of the border or because they are much cheaper there. Consequently, it is frequently fuelled by price differences. In addition, the volume of cross-border trade is influenced by natural geographical hindrances like high mountains, large rivers, vast unpopulated areas or seas, as well as by artificial structural hindrances like border fences and controlled border crossings. The number of people living near border crossing points also has an impact on the volume of cross-border trade.

Cross-border trade in the Nordic countries

Due to their close physical proximity and differential alcohol taxes and prices, the Nordic countries (Denmark, Finland, Norway and Sweden) have had high levels of cross-border alcohol trade. Between 10% and 15% of the total alcohol consumption in Denmark, Finland, Norway (not an EU Member State, unlike the others) and Sweden is estimated to come from alcohol brought from abroad (1–3). This short country example illustrates how cross-border shopping in the Nordic countries increased when import quotas were removed, and how lowering tax rates had little effect on decreasing cross-border shopping.

The impact of the European single market on cross-border trade in the Nordic countries

The European single market was created in 1993, which meant that almost all travellers' import quotas for alcoholic beverages were abolished. In addition, EU Member States can decide their own alcohol excise duty levels freely, as long as they exceed the minimum level (4), although the Nordic countries have excise taxes well above the EU minimum rates (5). Within the EU and the single market, alcoholic beverages have generally been treated as ordinary commodities rather than harmful substances.

Denmark was the first Nordic country to join the predecessor to the EU, the European Community, in 1973; Sweden and Finland joined the EU in 1995. After joining, the three countries were granted temporary exemptions from abolishing their import quotas that would eventually expire on 31 December 2003 (6).

Only the non-EU Member State Norway was able to maintain alcohol import quotas. Since 2004, Denmark, Finland and Sweden have had only indicative, nonbinding levels on traveller's alcohol imports for personal use within the EU. EU Member States can develop their own guidelines on specific levels of what is considered to be

for personal use, but these cannot be below the levels set by EU legislation (7). The fact that Norway, as a non-EU country, has been able to keep its quotas for alcohol imports has enabled Norway greater freedom when setting the levels of excise duties for alcoholic beverages than in the other Nordic countries.

Policy response (1995–2007): harmonizing alcohol taxes downwards

With the threat of increasing unrecorded cross-border trade, and the consequent increase in alcohol consumption due to the new EU single market, the Nordic countries responded by harmonizing taxes downwards. This coincided with increased overall alcohol consumption and alcohol-related harms, and reduced alcohol tax revenues.

Despite the change in taxes, cross-border shopping continued to increase when import quotas were removed, as is evident in data from Finland and Sweden, where cross-border trade of alcoholic beverages increased throughout the 1990s. From the mid-1990s, 50–80% of the unrecorded alcohol consumption in Finland and Sweden was brought into the country by travellers. The increase in travellers' alcohol imports to Sweden was further fuelled in 1999 when the bridge over the Öresund strait opened and for the first time offered a landbound connection between Sweden and mainland Europe. In contrast to Finland, Sweden liberalized its import quotas incrementally between July 2000 and January 2004. This affected both the amount of alcohol brought into the country and the share of unrecorded alcohol. In 2003, a third of all alcohol consumed in Sweden was estimated to be unrecorded, whereas the corresponding figure in Finland was just under a fifth. Overall consumption in Finland was, however, markedly higher than in Sweden or Norway (8–10).

The development of cross-border trade in Norway differed from that in its two neighbouring countries Sweden and Finland as it maintained its strict import quotas. This also explains why the share of travellers' alcohol imports in relation to the total alcohol consumption in Norway was not as large as in Finland and Sweden at the end of the 1990s. It was not until the very end of the 1990s that travellers' alcohol imports to Norway started to increase, especially from Sweden (11). For Finland and Sweden, the result of being part of the European single market was that inexpensive alcohol became more readily available, particularly in the southern parts of the countries.

Policy response (2008–2020): balancing high taxes and increased cross-border trade

It is possible to maintain high alcohol taxes while at the same time decreasing cross-border trade. At the end of the 2000s, the Nordic countries adopted significantly divergent strategies regarding alcohol tax. Norway and Sweden maintained higher

tax levels, with minor upwards adjustments. Over this period, total alcohol consumption and cross-border trade in alcohol and unrecorded alcohol consumption declined in both countries (12, 13).

Finland opted for an aggressive tax policy on alcoholic beverages during the 2010s, including several tax increases. During the same period, alcohol consumption in Finland decreased by 16%: from 10.9 litres of pure alcohol per capita in 2005 to 9.2 litres in 2019 (14). The first three tax increases in 2008 and 2009 resulted in an increase in unrecorded alcohol consumption but a reduction in total alcohol consumption. In 2012, 2014 and 2019 the tax increases resulted in reductions in both unrecorded and total alcohol consumption. In 2018, when the taxes were raised by an average of 10%, both unrecorded and total alcohol consumption increased slightly. This, however, coincided with new, more liberal, alcohol legislation that was introduced in Finland in January and March 2018 (15).

Lessons learned

- Paying taxes and yielding revenues in one country while creating harms and costs in another is an inherent problem with cross-border trade in alcohol. Simply harmonizing alcohol tax levels downwards has proved not to be a viable solution to this problem (16, 17). Although reductions of taxes on alcoholic beverages could reduce travellers' alcohol imports and cross-border trade of alcohol from neighbouring countries, empirical evidence from Finland in 2004 shows that it might also lead to increased overall alcohol consumption levels, increased alcohol-related harms and costs, and reduced alcohol tax revenues.
- Experience from the Nordic countries show that, while difficult, it is nonetheless possible to maintain high alcohol taxes while at the same time balancing a lively cross-border trade in alcohol. Substantially lowering the indicative traveller's import quotas for personal use within the EU, as well as transforming them into binding quotas, would improve the effectiveness of tax policy while maintaining high levels of taxes.

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ANNEX 7.2. ESTIMATING THE SIZE OF THE ILLICIT MARKET

The gap analysis method

The simplest and most frequently used method to estimate the size of an illicit alcohol market is a gap analysis (also called the residual method) contrasting population survey estimates of consumption with officially reported alcohol sales data (1). The size of the gap between these two estimates represents unrecorded consumption, of which illicit alcohol is a subset (2).

The gap method has several **weaknesses**, each of which can be mitigated to some degree.

- The estimates of consumption suffer from respondents' underreporting of their alcohol consumption. If the level of underreporting remains constant over the time of analysis, then the gap between reported consumption and alcohol sales can be used to estimate the trends in the illicit market over time.
- The surveys may not be representative of the entire population of drinkers, especially when it comes to heavy drinkers, who are more likely to consume illicit alcohol but are generally less likely to participate in surveys or recall correctly the amount consumed due to intoxication (3). One option to deal with this limitation is to take it into account when sampling respondents for the survey and improve the representativeness of the sample.
- The estimates of consumption include legal unrecorded consumption, such as legal cross-border shopping or legal homemade production for personal use. This can be remedied by using local specific knowledge in developing the questionnaire so that it detects legal unrecorded consumption.

Despite these weaknesses, the gap method can assess trends in the unrecorded alcohol market over time; it is therefore useful for assessing the impact of changes in alcohol tax and pricing policies.

Measuring the difference between alcohol consumption and alcohol-related impacts

Another approach to estimating the size of the illicit alcohol market relies on the relationship between alcohol consumption and data on alcohol-related impacts such as alcohol-related mortality, alcohol-related violent deaths, alcohol-related psychosis or blood-alcohol concentrations among patients/drivers (3, 4). Country-specific historical data can provide calibration for the strength of this relationship. For example, an increase in alcohol consumption by 1 litre per capita per year would correspond to an increase in alcohol mortality of a certain rate. A discrepancy

between the observed and the expected alcohol-related mortality (based on sales data) could signal an increase in unrecorded alcohol consumption (4).

This approach comes with its own **weaknesses** because it assumes that the relationship between the alcohol-related impact and alcohol consumption is consistent over time and not affected by other factors. The method also depends on the accuracy of estimates of alcohol-related effects. In addition, in the absence of a reliable initial estimate of the size of the illicit alcohol market, this method can inform the trend but not the size of the market (5).

Measuring the sale of ingredients used in the production of homemade spirits

Sales of the ingredients used in the production of homemade spirits such as sugar or sorghum malt can be used to approximate the production volume of these spirits. For example, a 33% reduction in the sale of sorghum malt from 1998 to 2010 in South Africa (corroborated by a self-reported decline in consumption of this type of alcohol in a nationally representative survey) indicated a fall in production of home-brewed beer, most of which is traded illegally (6). However, a **weakness** is that this method can only be used for some types of alcohol, as the proportion of ingredients used for many types of illicit alcohol production is unknown, and illicit alcohol also includes counterfeit and surrogate alcohol not meant for consumption (5).

Comparing international trade data

Attempts have been made to assess the size of the illicit trade in alcohol using international trade data and studying the difference between countries' mirror records (pairwise records of trade partners) on imports and exports of alcohol. The method is based on the hypothesis that the difference between recorded exports of an exporting country and recorded imports of the receiving country is likely to reflect the volume and/or value diverted to illegal markets while in transit.

However, a **weakness** is that this method is sensitive to factors such as data quality, exchange rate discrepancies, time lags and differences in classifications. In addition, it does not detect small-scale smuggling or domestic production of illegal alcohol. Given the intrinsic weaknesses of this methodology, it should not be used for estimating the scope of alcohol tax evasion on a country level. It could be useful, however, for identifying the foreign source of illicit alcohol and hubs from which illicit alcohol is being distributed (7, 8).

Using country-specific characteristics of the alcohol market

A recent study of cigarette tax evasion in Pakistan provides a useful framework for studying alcohol tax evasion by large companies (9). The methodology consists of examining data from various sources (including firms' financial statements and

trade statistics) on ingredients (such as raw materials) and other inputs (such as labour and electricity) supplied to the production process. The linkages between the inputs and production over time are estimated using production function and econometric techniques. The resulting parameters of the production function can be used to estimate the expected output, and any significant deviation from this signals the presence of underreporting or other internal problems within the company that are worth investigating.

Some markets feature a specific type of alcohol that falls into both the legal and the illegal categories. To the extent that this type of alcohol is reported in nationally representative surveys, its consumption can be used as a proxy for assessing the overall trend in illicit alcohol consumption. For example, a survey in South Africa collected information on the consumption of sorghum beer, which is both legal and illegal, with illicit home-brewed sorghum beer representing the largest category of illicit alcohol consumption measured by pure alcohol. Therefore, the trend in consumption of sorghum beer is a good indicator of the trend in illegal alcohol consumption, especially since brewed sorghum beer is often combined with illegal concoctions (5).

Measuring the seizure of illicit alcohol

The World Customs Organization uses seizures of illicit alcohol to assess global trends (10). This method, however, suffers from multiple **weaknesses**. First, it relies on the accuracy of seizures reported by Member States. Second, the number and quantity of seizures depends heavily on the level of enforcement, which may be related to a number of factors including funding, capacity, expertise and governance – and luck in intercepting illicit operations – and is therefore not necessarily related to the size of the problem. For example, the positive relationship between the level of enforcement and the quantity of seized products has been established in the tobacco market. In the United Kingdom, an enhanced enforcement effort led to higher volumes of seized cigarettes and hand-rolled tobacco, even though the size of the illicit tobacco market declined during the same period (11). Nevertheless, the amount of seized illegal alcohol provides a lower bound of the scope of tax evasion in the alcohol market.

The current size of the unrecorded and illicit trade markets

While recorded alcohol consumption can be measured via production, export and import records and registers, or via sales and tax, monitoring and surveillance of unrecorded alcohol consumption remains fragmented and underdeveloped (12). WHO reported unrecorded alcohol consumption for Member States for 2005, 2010 and 2016 in its global status reports (13–15). These estimates are statistically

modelled based on expert judgements, available but limited survey data (16) and extrapolations from single-country studies (16, 17, 12). For various reasons – especially insufficient sampling frames and potential underreporting in surveys – these estimates are considered conservative and may be substantial underestimates of actual consumption of unrecorded alcohol (18).

An important observation is that the WHO estimates of unrecorded alcohol do not distinguish between illicit trade and unrecorded alcohol. This is highlighted in South African data, where estimates of the illicit alcohol trade at 14%, generated by two government departments (5), are significantly lower than the WHO estimates of unrecorded alcohol consumption (26.4%). This is to be expected, given that the illicit market is a subset of the unrecorded market. While these estimates are largely based on expert or industry opinion, all studies agree that home brew is the major source of unrecorded alcohol in South Africa, accounting for up to 86% of unrecorded alcohol.

Beyond these efforts to estimate unrecorded alcohol consumption, several attempts have been made to estimate the magnitude of the illicit market specifically. Euromonitor International claims that 25.8% of the global alcohol volume was illicit in 2018 (19). However, there is substantial variation across regions, ranging from 15% in Latin America to 40% on the African continent. Euromonitor International's methodology is unknown, but its estimates of illicit trade for the tobacco market have been subject to criticism (20). In addition, only selected countries are included in the estimates. For example, only eight African countries are included in the report (19).

The World Customs Organization reports data on global seizures of smuggled alcohol products. In 2019, 52 countries reported 4240 smuggling cases involving alcohol products, which was a 40% reduction compared to 2018. These cases led to 5326 seizures of 1.9 million litres of alcohol products in 2019, a 44% decline in the number of seizures and a 63% decline in litres seized compared to 2018 (10). For comparison, only 700 alcohol seizures were reported in 2012 (21). However, seizures are heavily influenced by the efficacy of customs officers and reporting practices of individual countries, and therefore they may not accurately reflect a genuine trend in alcohol smuggling. Overall, alcohol is less likely to be smuggled than tobacco products, given its larger weight and volume. In 2019, alcohol represented 16% of total seizures, falling far behind tobacco products, which represented 84% of seizures (10). Beer accounted for the greatest number and volume of alcohol seizures in 2019, followed by vodka and whisky (which dominated in 2012) (21).

The most reliable estimates of the size of the illicit alcohol market are generated in the United Kingdom on an annual basis by its tax collection agency, His Majesty's Revenue & Customs (HMRC) (2). Annual estimates are released in a report clearly describing the methodology and its refinement over time. The estimates are not

for the share of the total alcohol market but for the tax gap (Table A7.1). The gap is estimated separately for beer and spirits, since different assumptions apply to each of these categories with respect to their supply channels. Attempts to estimate the size of the United Kingdom's illicit wine market using the gap method have been dropped recently due to the lack of reliable data.

Table A7.1. United Kingdom excise tax gap for beer and spirits 2014–2020

CATEGORY	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Beer	14%	13%	12%	12%	15%	12%
Spirits	8%	7%	2%	5%	3%	3%
Total	12%	11%	9%	8%	10%	9%

Source: HMRC (22).

Beer contributed more than spirits to the alcohol excise tax gap in the United Kingdom between 2014/2015 and 2019/2020. In the 2019/2020 fiscal year, the tax gap on beer was 12% and on spirits was 3%, meaning that those proportions of the excise tax due were not collected. The tax gap for beer was not significantly different over the period, but the gap for spirits showed a marked decline. The overall tax loss due to illicit beer and spirits sales was £600 million (US\$ 739 million) and £140 million (US\$ 172 million)⁵⁹ in 2019/2020 (22).

Estimates of the size of the illicit alcohol market using scientific research methods are rare in LMICs. A study on illicit alcohol use in the Southern African Development Community covering Eswatini, Mozambique, Namibia, South Africa, Zambia and Zimbabwe relied on industry estimates of the sizes of illicit markets that are extremely unreliable (23). It is therefore not surprising that the estimates for South Africa were about 77% higher for spirits and 100% higher for wine than government estimates. The industry experts estimated that 40% of the alcohol market in Eswatini was illicit, while the same statistic in Mozambique reached 50–60%. On the other hand, Namibia's illicit alcohol market was assessed at less than 10%.

The Philippines reported that 47% of the alcohol imported to the country was not recorded during 2002–2005, implying that this alcohol evaded payment of appropriate taxes in the Philippines (8). However, the estimate relied on a comparison of international trade data, a method considered unreliable due to its many weaknesses.

⁵⁹ Conversions of amounts from the local currency were made using the official exchange rates from the United States Treasury Reporting Rates of Exchange on the date of data collection. The exchange rate used is US\$ 1 = £0.812 (2019).

Conclusion

Policy-makers and researchers can use several approaches to measure the size of the illicit market of alcohol objectively. These include the gap analysis method, comparisons using alcohol-related methods, using trade and seizure data, and relying on the sale of ingredients used in the production of illicit alcohol. It is important, however, for policy-makers and researchers to be cognisant of each method's weaknesses.

It is important that any scientific estimate of the size of the illicit alcohol market presents its methodologies transparently, including assumptions made during the calculations and the data used. Since these are only estimates, reporting results with confidence intervals is necessary, as is full disclosure of all sources of funding for the study. Transparency with respect to the funding source is necessary to determine any possible conflicts of interest. Publication in a peer-reviewed scientific journal is a plus. As with methods to estimate the size of the illicit cigarette market, the best practice is to use multiple methods and cross-verify the results (4).

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CHAPTER 8.

Summary: key findings for alcohol tax policy and administration

8.1 TAX POLICY

Excise tax increases should be used to achieve the public health goal of reducing demand for alcohol. This manual provides the most recent national and global evidence that demonstrates the effectiveness of higher alcohol taxes and subsequently higher prices in reducing demand for alcoholic beverages. Alcohol excise taxation is a highly cost-effective policy instrument. Of all the types of tax imposed on alcoholic beverages, alcohol excise tax is the most effective, as it raises the price of alcohol relative to other products. In addition to improving public health, alcohol excise taxes have the added benefit of generating government revenue.

Alcohol excise tax increases should be included as part of a comprehensive strategy to reduce alcohol consumption. Alcohol tax and pricing policies are most effective when implemented within a comprehensive alcohol control strategy. Raising alcohol taxes and prices is one of the WHO-recommended high-impact interventions in the global alcohol action plan endorsed by all WHO Member States in 2022. It is also among the most cost-effective interventions to reduce noncommunicable diseases. Increasing excise taxes and the other high-impact interventions in the action plan are included in WHO's SAFER interventions: (S) strengthening restrictions on alcohol availability; (A) advancing and enforcing drink-driving restrictions; (F) facilitating access to screening, brief interventions and treatment; (E) enforcing bans or comprehensive restrictions on alcohol advertising, promotions and sponsorships; and (R) raising prices on alcohol through excise taxes and pricing policies.⁶¹ Implementation of a comprehensive strategy to reduce alcohol consumption will optimize tax and pricing policies and result in greater reductions of the health, social and economic harms caused by alcohol use.

61 The SAFER technical package: five areas of intervention at national and subnational levels. Geneva: World Health Organization; 2019 (<https://iris.who.int/handle/10665/330053>, accessed 7 July 2023).

8.2 TAX DESIGN

Tax structure matters, and taxes should be designed based on the local country context. The alcohol tax structure is an important determinant of the effects of alcohol tax policy on price, alcohol consumption and subsequent health outcomes related to alcohol. The choice of tax structure is one of the factors that influence the rate of tax pass-through to various alcoholic beverages, and the price elasticity of demand of the different alcoholic beverage types affected and consumed will determine what happens to overall consumption. However, choosing the best tax structure is challenging. Policy-makers need to take into account a range of factors when deciding on the appropriate tax structure in a given country context, including their policy goals, product heterogeneity and tax administration capacity.

Governments should consider differences between alcoholic beverages carefully when designing alcohol taxes. A country should consider several factors in choosing its alcohol tax structure, including the type of tax, the base and other characteristics such as whether to implement uniform or tiered rates and whether to mix tax types and bases. Moreover, countries may even combine multiple structures to exploit their multiple attributes. Some of the factors that countries should take into account include alcoholic beverage patterns of consumption (for example, whether the country has high rates of binge drinking or alcohol consumption among young people), administrative capacity and policy goals (for both public health and fiscal outcomes).

- An alcohol-content-based specific tax is an effective tool to ensure that alcoholic beverages are taxed relative to their harm.
- Volumetric/unitary specific taxes have been shown to reduce drinking initiation among young people, but may also encourage consumption and industry promotion of stronger beverages.
- If the policy goal is to increase government revenue, governments may want to impose higher tax rates on those alcoholic beverages which are more price inelastic relative to others. This would allow higher tax increases resulting in increasing revenues while reducing consumption. The price elasticity of demand will depend on the country's market structure and consumption patterns and can be established empirically.
- Governments are likely to settle on a combination of tax structures and tiers, taking into account the alcoholic beverage market in their country, and choosing the structure that will allow them to reach various policy goals. However, the complexity of the tax structure, base and rates should be weighed up against the country's tax administration capacity.

Governments should rely more on specific excise taxes than ad valorem excise taxes. Ad valorem alcohol tax structures pose several disadvantages. Most notably, they impose a lower tax amount per unit on lower-priced alcoholic beverage by design, resulting in a larger variation in prices between premium and lower-priced alternatives. Consequently, they may result in consumers switching to lower-priced alcoholic beverages rather than consuming less alcohol when alcohol taxes increase. They are also more prone to industry manipulation, as manufacturers may lower their prices to reduce their tax burden. Further, ad valorem tax structures may incentivize producers to produce lower-quality and thus lower-priced alcoholic beverages, which may encourage consumption and drinking initiation. Specific alcohol excise tax structures are therefore preferred. The choice of whether unitary/volumetric or alcohol-content-based specific excise taxes will be most effective in reducing overall alcohol consumption will depend on the specific country context. Ad valorem excise taxes may be valuable as part of a mixed tax structure when the policy goal is to increase government revenue. They tend to yield high revenue from very high-priced alcoholic beverages such as high-end wines and spirits. A country with a large high-end market may use ad valorem taxes as an extra revenue-generating tool, but should rely on specific excise taxes to secure higher prices on lower-end products, decrease overall consumption and achieve public health goals.

Specific alcohol taxes should be adjusted automatically for inflation and income growth. If governments implement specific alcohol excise taxes, their real value and effectiveness in reducing alcohol demand will fall over time as inflation or general income levels increase. To ensure that the effectiveness of alcohol taxes is maintained, governments should establish a mechanism for automatically adjusting specific taxes to keep pace with inflation and income growth.

Alcohol taxes should be increased regularly to reduce affordability over time. Governments should raise taxes regularly to increase prices and reduce the affordability of alcoholic beverages, to optimize the public health impact of tax policies while simultaneously generating higher revenues. Alcohol consumption increases when people's income increases. Since the 1990s, alcoholic beverages are becoming more affordable, especially in low- and middle-income countries. To reduce affordability, tax increases need to result in real price increases

Alcohol content should be used as the tax base to generate incentives to reduce alcohol consumption. Taxing alcohol content as the tax base can induce both demand-side and supply-side incentives to reduce the use of alcohol. On the demand side, these taxes target high-strength alcoholic beverages directly, ensuring that

beverages with greater alcohol content are taxed at a higher rate, which will result in higher prices. This should reduce the health harms of alcohol consumption. On the supply side, alcohol-content-based specific taxes could incentivize industry to reformulate products and promote lower-alcohol-content alcoholic beverages, to attract lower taxes.

Pricing policies could be used in conjunction with excise taxes to optimize tax policies. Setting a minimum price that prohibits alcohol sales to consumers below a designated price is an effective policy to curb the consumption of cheap alcoholic beverages, which are often preferred by consumers engaging in heavy drinking. Therefore, these policies can have a specific impact by targeting the availability of alcohol and the pattern of drinking. However, they need to be implemented alongside a well-designed tax policy, as minimum pricing policies alone will result in excessive profits for the alcohol industry, and they may reduce government revenue and be a barrier to public health objectives.

8.3 MONITORING AND EVALUATION

Governments need to understand the national alcohol market, including the types of alcoholic beverages being consumed and the patterns of consumption. The type of tax structure chosen and the impact it will have on alcohol consumption and government revenue will be determined by the specific dynamics of the relevant market. It is also important to consider the nature and degree of competition in the market when determining tax structure, as these will determine the tax pass-through and impacts of the policy. Monitoring is necessary to determine whether and how market dynamics have changed.

Policies should be monitored and evaluated to ensure that the most effective alcohol excise tax and pricing policies are implemented. Monitoring and evaluation are essential for effective alcohol taxation. Countries need to assess the effects of a proposed alcohol control policy on consumption, patterns of drinking and lives saved. Building and monitoring indicators of tax and other alcohol control policies will help governments assess improvements resulting from their policies and determine whether those policies have an impact on alcohol use over time.

8.4 TAX ADMINISTRATION

Governments should have clear administrative systems in place to deal with alcoholic product heterogeneity.

- The alcoholic beverage market has a wide variety of beverage types. Given that countries are likely to have different tax structures and rates for various beverage types, governments should have a clear framework or system for classifying these products, as this will determine their tax liability.
- If a country uses alcohol content as a base to determine tax liability, governments should have clearly defined and approved methods for measuring alcohol content.
- Governments, rather than industry, should be in control of the systems to test alcohol content.

Certain institutional arrangements are important for tax administration. There are several characteristics that competent and efficient tax authorities share and governments should strive for. These include:

- clearly defined roles, responsibilities and rules for coordination among the relevant bodies;
- competent authorities to collect and manage data on a regular basis;
- effective coordination among the relevant bodies at the national and international levels;
- regular evaluations of performance and accountability according to key performance indicators, making it possible to identify areas for improvement.

Governments should ensure compliance and accuracy of information on the tax compliance cycle. To achieve this goal, governments should consider implementing several actions.

- Reliable data are essential for compliance and accuracy of information on the tax compliance cycle. If possible, governments should consider implementing electronic systems to reduce the data collection and administrative burden. Impeccable recordkeeping of entities engaged in the alcoholic beverage supply chain is key.
- Licensing should be required for the manufacturing, importing, exporting, retailing, transporting, wholesaling, brokering, warehousing and distribution of alcoholic beverages, products and components of the alcohol product supply chain. This will help to secure the supply chain while obtaining valuable information – for example, through access to companies’ accounting and inventory systems.
- Taxes should be collected close to the points of production and import, to limit the number of taxpayers a competent authority needs to manage.
- Using electronic payments and payments at fixed intervals can also ease the cost and enforcement of tax collection and increase compliance.

Governments should ensure control and enforcement of the supply chain. To achieve this goal, action is needed in several areas.

- Governments should use a risk-based approach by choosing defined targets for enforcement and control, such as those with a higher probability of non-compliance.
- Licensing is key to identifying and controlling legitimate operators. The data obtained from licensing can serve as a basis for audits. The validity of licences should be limited in time, and renewals or reapplication should be required to maintain a high level of control.
- Tax stamps are an appropriate tool for increasing compliance with tax laws and distinguishing between genuine and illicit alcohol. They should have strong security features to reduce the risk of counterfeiting.
- A tracking and tracing system for alcoholic beverages should be implemented to help authorities determine the origin of the alcohol and points of diversion, should they occur. The system is also useful for monitoring and controlling the movement of alcoholic beverages and their legal status. It is crucial that the government implements these systems independently of the alcohol industry.
- Cost audits, transfer pricing audits, price and market monitoring, consumer controls and cross-check controls are all periodic audits that governments can use to increase compliance.
- Anti-forestalling measures should be implemented so that forestalling does not delay a tax increase and its intended effect on revenue and consumer behaviour.
- The import and export of alcohol products and manufacturing equipment can be controlled by allowing only duly licensed natural persons or legal entities to conduct such activities.

Procedures to follow detection of unrecorded alcohol – and, specifically, illicit trade in alcohol – should be defined clearly. Unrecorded alcohol, and particularly illicit trade, undermines the effectiveness of tax policies. Given that not all unrecorded alcohol is illegal, the countermeasures used to deal with illicit and legal unrecorded alcohol may differ. Clear steps should be defined when unrecorded alcohol is detected.

- Smuggled and/or illicit alcohol should be seized and destroyed.
- Penalties, fines and the withdrawal of licences of those engaging in illicit trade should be clear and certain, and effectively enforced.
- Surveillance mechanisms are key to detecting unrecorded alcohol.
- Governments may consider financial incentives for formalization/registration of unrecorded alcohol supply or alternative livelihoods.

8.5 POLITICAL ECONOMY

Subsidies, tax incentives, loans and grants to support the alcohol supply chain should be avoided. Although policy-makers have a public health goal to reduce the harms related to alcohol consumption, policy-makers and international financial institutions will often provide support to sections of the alcohol supply chain. This includes subsidies, tax incentives, loans or grants to support the production of raw materials used in alcoholic beverage production, or that may directly support the manufacturing of alcoholic beverages. In addition, there may be support for the marketing, advertising and promotion of alcoholic beverages. This is counterproductive, as alcoholic beverages are not an ordinary commodity. Since price has such a significant impact on alcohol use and harms, a comprehensive fiscal approach to alcohol from a public health perspective should include reducing or eliminating this support to the alcohol industry.

Consider using earmarking when appropriate. The health benefits of alcohol taxation may be enhanced by earmarking tax revenue for health improvements. Alcohol tax revenue can, for instance, be used to expand health services, and especially in prevention and treatment of alcohol-use disorders and other alcohol-related problems through universal health coverage or health promotion and disease prevention activities. Earmarking is also a tool to improve the palatability of increasing alcohol taxes – especially among the public, politicians and officials. Nevertheless, it should be noted that ministries of finance may be wary, given that earmarks introduce potential rigidities to government budgets.

8.6 THE ALCOHOL INDUSTRY AND CORPORATE ACTIVITIES: INDUSTRY ARGUMENTS AGAINST ALCOHOL TAX AND PRICING POLICIES

Corporate activities to influence taxation and pricing policies should be managed and counteracted if necessary. Leading alcohol producers – in coordination, via industry associations – may undermine the impacts of alcohol tax and pricing policies and governments' autonomy to develop and implement alcohol regulations. This is often done through various corporate activities, including constituency building, lobbying activities and financial incentives. It is therefore critically important to understand both the global scope and structure of the alcohol industry, as well as the strategies used – particularly in efforts through corporate activity. There is currently a gap in advice to countries on the approach that should be adopted when dealing with the alcohol industry. However, there are lessons to be learned from international experiences in countering industry opposition to tax and pricing policies. Governments can examine this experience, which provides clear guidance

for managing their policy interactions with the alcohol industry, to ensure that alcohol tax and pricing policies are protected from commercial and other vested interests of the industry. The alcohol industry uses various arguments to dissuade governments from implementing alcohol tax and pricing policies. These arguments, and the best practices for countering them, are described below.

The alcohol industry argues that alcohol tax and pricing policies will result in an increase in unrecorded alcohol, but governments should not allow such concerns to sway them. Unrecorded alcohol products and, specifically, illicit trade (such as smuggled and illegally home-brewed alcohol for commercial purposes) are difficult to measure and to eliminate. This makes them a concern of tax administrations. Estimates of unrecorded and illicit alcohol are often provided by the industry, although their methodology and final figures are often distorted and inflated. These figures are used to support the industry's monocausal conjecture that alcohol taxation will result in illicit trade. Governments should perform their own assessments of the level of illicit trade in their countries and should not rely on such industry estimates. Instead, the focus should be on the effect of alcohol tax increases on the total market (recorded and unrecorded) and total alcohol-related harm. To curb illicit trade, governments also need to address the country-specific institutional and governance challenges directly, including via multilateral coordination and improving tax and customs administration practices.

Industry threats of court and legal challenges to tax increases or reforms should not prevent governments improving tax policy. Legal requirements for design, procedure and consultation should be followed closely to strengthen the government's legal position and minimize the possibility that any challenge will be raised. While the industry might threaten legal action against alcohol excise taxes, they are health-protective and, as long as they are nondiscriminatory, legally defensible. Governments can take certain steps to strengthen their legal position. The legislation applicable to excise taxation in the country, and the standard of consultation required under domestic law and any applicable international obligations should be determined. Further, any unnecessary and unjustified discrimination towards foreign alcoholic beverages should be avoided in the design, implementation and enforcement of the tax, as this may contradict World Trade Organization guidelines.

The industry often argues that alcohol tax and pricing policies are anti-poor or regressive, but governments should not allow these concerns to prevent alcohol tax and price increases. The industry may make such arguments based on traditional approaches to measuring the welfare and distributional effects of alcohol

tax increases. These do not take into account the “alcohol harm paradox” – a term that refers to the disproportionate harm per litre for poorer consumers of alcoholic beverages. Alcohol taxes need to be considered within the context of the inequitable alcohol-related disease burden.

The industry argues that alcohol tax and pricing policies will result in revenue reduction, but governments should not let such fears prevent increases on alcohol excise taxes. Empirical evidence has shown that tax increases bring in additional revenue. This is the result of the relatively price-inelastic nature of alcohol demand, which means that an increase in the tax and price of alcoholic beverages will result in a proportionately smaller decrease in consumption and an increase in tax revenue. If tax increases are designed carefully and tax administration is functional, it is extremely unlikely that tax increases will lead to revenue decreases. In most countries, alcohol taxes are still relatively low, and there is scope to increase government revenue from them.

The industry overestimates the impacts of alcohol tax and pricing policies on employment, but governments should not allow such concerns to prevent alcohol tax increases. The relationship between tax and employment is complex, and is often overstated by the industry as a tactic to deter alcohol tax and pricing policies. Industry studies are often flawed, and governments should not be swayed by them. In truth, employment in the alcohol sector is highly affected by technological change that is already reducing labour intensity in the sector. The effect of taxes on employment will also differ from country to country, due to regionalism in alcohol production. Additionally, employment is sensitive to global trade, and is affected by the export and import intensity of different types of alcohol as well as global demand. Industry arguments about job losses also ignore the fact that expenditure on alcohol does not disappear but instead is redistributed to other forms of consumption that produce jobs. This consumption is also likely to have less harmful impacts on individuals.

The industry employs disinformation strategies to misrepresent health information on alcohol consumption, but these should not prevent governments from increasing excise taxes on alcoholic beverages. The industry has adopted several disinformation strategies to create a narrative that, if drunk responsibly, alcohol is harmless. These strategies include funding and shaping scientific information campaigns through various actions. Research needs to be transparent and objective in their work. This includes publicizing and improving conflicts of interest in peer-reviewed research and discussing the ethics of industry funding and its potential contribution to biased results.

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