

POLICY BRIEF

# ALCOHOL TAXATION AND PRICING POLICIES IN THE REGION OF THE AMERICAS

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Policy Brief: Alcohol Taxation and Pricing Policies in the Region of the Americas  
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Alcohol is a psychoactive substance which caused 379,000 deaths in 2016.



The amount and frequency of alcohol consumed by an individual is determined, in large part, by the affordability of alcoholic beverages.

# KEY POINTS

▶ The need to reduce alcohol-related harms has been recognized by the 2010 World Health Organization (WHO) Global Strategy to Reduce the Harmful Use of Alcohol (adopted by the Sixty-third World Health Assembly), the United Nations Sustainable Development Goals, the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020, and the Pan American Health Organization (PAHO) Plan of Action to Reduce the Harmful Use of Alcohol.

▶ Alcohol is a psychoactive substance which caused 379,000 deaths (5.4% of all deaths) in the Americas in 2016. It was responsible for 3.3% of all deaths due to communicable, maternal, prenatal, and nutritional conditions; 3.8% of all deaths due to noncommunicable diseases (NCDs); and 22.4% of all injury deaths.

▶ The amount and frequency of alcohol consumed by an individual is determined, in large part, by the affordability of alcoholic beverages. In turn, the affordability of alcohol is determined by the price of the alcoholic beverages in relation to other products, rates of inflation, and consumers' incomes.

» Thus, alcohol excise taxation (taxes which only apply to alcohol) is the most cost-effective policy to prevent alcohol-related harms by reducing alcohol consumption, delaying and/or preventing the initiation of drinking.

▶ Alcohol is a price inelastic product. As such, assuming that prices increase as a result of a rise in alcohol excise taxes, it would increase tax revenues. In addition, if the price increase resulting from raising alcohol excise taxes is

significant enough, the demand for alcoholic beverages will decrease, with a direct positive impact on population health. Thus, increasing alcohol excise taxation can be a win-win policy, with positive outcomes for both population health and state revenues.

▶ The structuring of alcohol excise taxation can be based on: (i) the overall volume of the alcoholic beverage; (ii) the amount of ethanol contained in the beverage; (iii) the price of the alcoholic beverage; or (iv) a combination of these three measures.

» The various tax structures create different incentives, which, in turn, have differing effects on revenue generation, alcohol consumption, and harms.

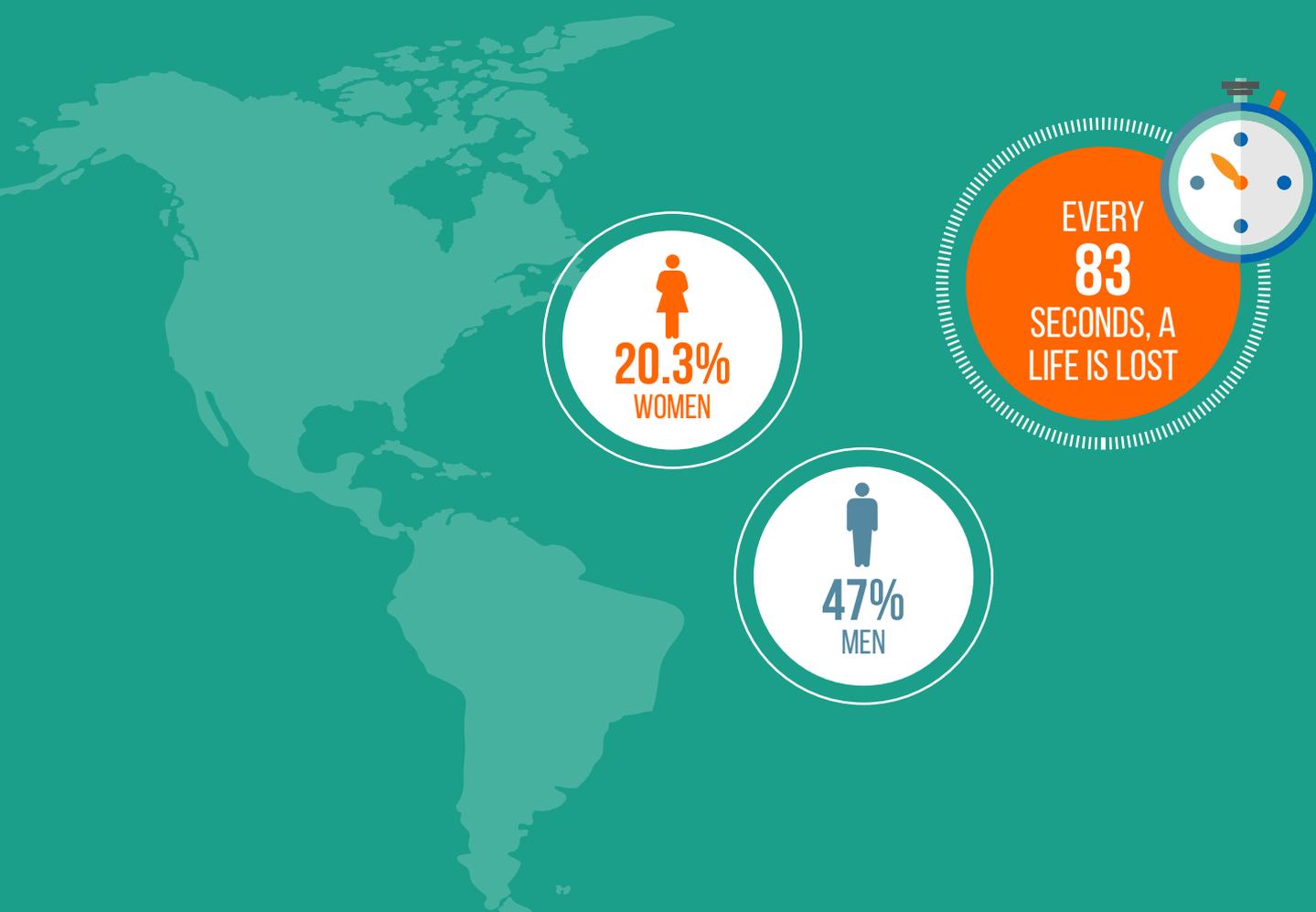
» Taxing alcohol based on its volume of ethanol targets alcohol consumption among younger people, people of lower socioeconomic status, and heavy drinkers.

» When formulating and deciding upon taxation policies, governments should evaluate: (i) control of alcohol consumption and public health problems caused by alcohol consumption; (ii) prevention of drinking initiation (in countries with a high prevalence of lifetime abstinence); and (iii) tax revenue generation.



## Alcohol consumption and its impact on health in the Americas

- ▶ Alcohol is a psychoactive substance which causes substantial health harms: it is related to over 200 health conditions and injuries (identified as three-digit International Classification of Diseases, Revision-10 codes), to social and economic harms to the drinker, and to secondhand harms, including violence and road traffic crashes.
- ▶ The harmful use of alcohol is prevalent in the Americas. In 2016, 47% of all adult men (over 15 years of age) who were current drinkers and 20.3% of all adult women who were current drinkers reported to have engaged in heavy episodic drinking in a past 30-day time period. The average consumption of all drinkers in aggregate was about three drinks/day, every day of the year.
- ▶ Alcohol caused 379,000 deaths (5.4% of all deaths) in the Americas in 2016. It was responsible for 3.3% of all deaths due to communicable, maternal, perinatal, and nutritional conditions; 3.8% of all deaths due to NCDs; and 22.4% of all injury deaths. Furthermore, alcohol was responsible for 19 million disability-adjusted life years (DALYs) (a measure of both premature mortality and disability) lost in the Americas in 2016, representing 6.7% of all DALYs lost in the Americas during that year.



## The effects of excise taxation on alcohol consumption

- ▶ Affordability of alcoholic beverages is the most important factor affecting alcohol consumption. Affordability is determined by both the price of the alcoholic beverages relative to other products, rates of inflation, and consumers' incomes. Decreases in alcohol affordability, which result from increases in alcohol prices and/or decreases in income levels, lead to decreases in alcohol consumption. Conversely, increases in alcohol affordability, which result from decreases in alcohol prices and/or increases in income levels, lead to increases in alcohol consumption.
- ▶ Since reductions in income levels are undesirable, the most cost-effective way of reducing alcohol-related harms is to increase alcohol prices through excise taxation; however, different methods of excise taxation have different effects on alcohol consumption and the resulting harms.
- ▶ Historically, and in numerous countries presently, alcohol excise taxation is mostly used as a fiscal policy tool, ignoring its potential to reduce the harmful use of alcohol and improve population health.
- ▶ Alcohol is an addictive drug, and, thus, is price-inelastic: meaning that changes in consumption are smaller than changes in price. Specifically, if an increase in taxes translates into an increase in prices of the same amount, then the increased tax revenues collected are greater than the foregone tax revenues resulting from the decrease in the number of alcoholic beverages sold. Therefore, increases in alcohol excise taxes lead to higher fiscal revenues. On the contrary, decreases in alcohol excise taxes lead to lower fiscal revenues, which in addition, could lead to increases in consumption and worsen population health.
- ▶ Increases in alcohol excise taxation can lead to increases in the price paid for alcohol by consumers. Price increases are generally overshifted in reaction to taxation (i.e., price increases are higher than tax increases). However, in some cases, alcohol producers may under-shift cheaper alcoholic beverages (i.e., price increases are lower than taxation duty increases) and over-shift expensive alcoholic beverages.
- ▶ Price elasticities of demand differ slightly by beverage type, but the price elasticities of alcohol do not differ based on the economic development of a country (see Table 1). Therefore, regardless of country-specific income levels, an increase in alcohol excise taxes, which in turn leads to price increases, is an effective means of reducing alcohol consumption and its associated harms.

**TABLE 1. PRICE ELASTICITY OF ALCOHOL PRODUCTION\*\***

Alcoholic beverage	% change in alcohol production per % change in alcohol taxation or price*		
	High-income countries		Low- and middle-income countries
	Wagenaar et al., 2009	Elder et al., 2010	Sornpaisarn et al., 2013
Beer	-0.46%	-0.50%	-0.50%
Wine	-0.69%	-0.64%	-0.79%*
Spirits	-0.80%	-0.79%	-0.79%*
All alcoholic beverages (i.e., total)	-0.51%	-0.77%	-0.64%

\* Based on the elasticity of wine and spirits combined

\*\* The table shows results related to alcohol production but the same is valid for alcohol consumption.

- ▶ Due to inflation and increases in wages, the affordability of alcohol may increase over time. Consequently, in the long term, the effects of price increases (caused by excise taxation increases) may decrease, and alcohol consumption may increase. As with tobacco, to account for changes in affordability, excise taxation should be adjusted periodically to account for changes in the consumer price index (except for ad valorem taxation – see section on the types of alcohol taxation, below).
- ▶ Alcohol taxation rates should be increased periodically (above the relative increase in the consumer price index) to achieve a continuous decline in the consumption of alcohol and its consequential harms.
- ▶ During periods of economic recession or depression, affordability of alcohol will decrease and, consequently, alcohol consumption may decrease. However, under such economic conditions, the prevalence of harmful drinking may increase. Therefore, alcohol taxation rates should not be decreased during an economic recession or depression.
- ▶ The price elasticity of alcohol, which measures consumers' response to changes in price, is negatively associated with the market share of the most popular alcohol brand. If there is one very popular alcohol brand in a country, the effect of taxation on alcohol consumption will be less than if no single alcohol brand constitutes the majority of the market. For countries where one alcohol brand constitutes the majority of the market, larger price increases are needed to observe a desired reduction in alcohol consumption compared to the price increases required to obtain the same reduction in alcohol consumption in those countries where no single alcohol brand constitutes the majority of the market.
- ▶ Alcohol excise taxes should apply equivalently to all alcoholic beverages to avoid substitutions. If taxation/pricing policies are not applied equally across all alcoholic beverages, substitutions occur whereby drinkers change the beverage they most often consume. For example, in 2008, alcoholic beverage price changes in New Zealand resulted in a reduction of 35% in the consumption of "ready to drink" alcoholic beverages (such as alcohol mixed with juice); however, spirits and beer consumption increased by 18% (total per capita consumption of alcohol declined by only 0.5%).

## The effects of increasing alcohol prices through taxes on alcohol-related harms

Alcohol price increases have been shown to:

- ▶ decrease the prevalence of alcohol dependence;
- ▶ reduce the number of liver cirrhosis deaths;
- ▶ reduce the occurrence of driving under the influence of alcohol, and the number of road traffic injuries and deaths;
- ▶ reduce the occurrence of suicide, violence, and the number of new cases of sexually transmitted diseases; and

▶ reduce crimes and related behaviors (including robbery, rape, and violence towards women).

Similarly, if alcohol prices decrease, there will be increases in alcohol dependence, the occurrence of, and deaths from, alcohol-related diseases and injuries, liver cirrhosis, road traffic crashes, driving under the influence of alcohol, suicides, violence, sexually transmitted diseases, and crimes and related behaviors.

**IF ALCOHOL PRICES DECREASE, ALCOHOL DEPENDENCE AND DEATHS AND ALCOHOL-RELATED DISEASES AND INJURIES INCREASE.**



## Cost-effectiveness of alcohol taxation

- ▶ Taxation is the most cost-effective policy to reduce alcohol consumption, with a cost of 22 and 41 international dollars per DALY saved in low- and lower-middle-income countries and upper-middle- and high-income countries, respectively (this estimate does not account for the revenues generated by alcohol taxation).
- ▶ According to recent modelling by the WHO for the Global Business Plan for Noncommunicable Diseases, the return on investment of the alcohol “best buy” policies (increases in taxation, comprehensive restrictions on exposure to alcohol advertising, and restrictions on availability) in low- and lower-middle-income countries showed that for every \$1 invested, a country should expect, on average, \$9.13 in return.
- ▶ The investment case for the prevention and control of NCDs, jointly conducted in Jamaica in 2017 by PAHO, the United Nations Interagency Task Force on NCDs (UNIATF), United Nations Development Programme (UNDP), and RTI International, estimated that the “best buys” leading to a reduction in mortality associated with the harmful use of alcohol had a return on investment (ROI) of 2.10 in 15 years (i.e., for every 1.00 Jamaican dollar invested, 2.10 would be expected in return).

**TABLE 2. PRICE ELASTICITY OF VARIOUS HEALTH OUTCOMES IN HIGH-INCOME COUNTRIES**

Outcome	% change in outcome per % change in alcohol taxation or price	
	Wagenaar et al., 2009	Elder et al., 2010
Alcohol dependence	-1.49%	
Alcohol-related disease and injury outcomes	-0.347%	
Death from liver cirrhosis		Inverse relationship between price and cirrhosis deaths, but there are substantial differences in the estimated strength of this relationship
Motor vehicle crashes		-1.20%
Alcohol-impaired driving		-0.50% to -0.81%
Suicide		-0.048%
Violence	-0.022%	-0.13% for rape -0.12% for any violence towards children
Sexually transmitted diseases	-0.055%	
Crimes and related behaviors	-0.014%	-0.09% for robbery

## Types of alcohol taxation

- ▶ Taxes can be applied to alcoholic beverages based on: (i) the total volume of the alcoholic beverage; (ii) the amount of ethanol contained in the alcoholic beverage; (iii) a percentage of the price of the alcoholic beverage (ad valorem taxation); or (iv) a combination of these taxation methods (see Table 3).
- ▶ Basing alcohol taxation on the total volume of the alcoholic beverage or the price of the alcoholic beverage promotes the production of inexpensive alcohol products (i.e., alcohol producers are incentivized to minimize their tax burden).

**TABLE 3. FUNCTIONS AND EFFECTS OF DIFFERENT TYPES OF TAXATION**

Attributes	Types of taxation		
	Specific taxation		Ad valorem taxation
	Based on the volume of ethanol	Based on the volume of the alcoholic beverage	Beverage price (retail price or the producer price [ex-factory price])
Effect of taxation on producers' adjustment in the long term	Encourages production of low ethanol content beverages, and high perceived quality of alcoholic beverages	Encourages production of high ethanol content beverages and low perceived quality alcoholic beverages	Encourages production of high ethanol content beverages with a wide variety of perceived qualities
Effect on beverage price per unit of pure ethanol (BPPE)	Increases	May decrease	Decreases
Effect on alcohol consumption	Decreases	Total consumption may increase as compared to the immediate post-taxed alcohol consumption situation	Total consumption increases when compared to the immediate post-taxed alcohol consumption situation
Effect on tax revenue generation	Alcohol tax revenue increases	Alcohol tax revenue may increase	Alcohol tax revenue increases (to a greater extent than under specific taxation)

### BOX. OTHER PRICING AND TAXATION POLICIES



**Minimum pricing:** A price is set that must be charged per standard alcoholic drink. Minimum pricing ensures that alcohol is not sold below cost as a promotional good. Minimum pricing can be used in combination with taxation.



**Tiered system:** This is a taxation system where the taxation rate is tiered based on the type of alcoholic beverage and its ethanol content. For example, Mexico applies excise taxes based on the price of alcohol; however, the tax rate differs by alcoholic beverage type (the categorization of beverage type is based on alcohol content).

## Effects of alcohol taxation on subpopulations

- ▶ There is preliminary research which suggests that price elasticities for alcohol may be higher among younger people. Alcohol-attributable harms among younger people are high; the proportion of deaths is high in this age group in the Americas (18.2% of all deaths among people 15 to 29 years of age were due to alcohol).
- ▶ People of lower socioeconomic status experience a higher impact of alcohol on health per gram of alcohol consumed (for multiple reasons, including access to health care).
- ▶ For economic reasons, the least expensive alcoholic beverages are preferred by youth, heavy drinkers, and people of lower socioeconomic status. Thus, taxation based on the volume of ethanol and minimum pricing affects these subpopulations more than it does people with higher socioeconomic status.



## Alcohol taxation and pricing in the Americas in 2016

- ▶ In 2016, 29 out of the 35 countries in the Region of the Americas reported a national excise tax on beer, wine and spirits (Bahamas, Barbados, Belize, Brazil, Canada, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, United States of America and Venezuela [Bolivarian Republic of]).
- ▶ However, only 18 countries (Argentina, Brazil, Canada, Chile, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Mexico, Nicaragua, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Uruguay, and Venezuela [Bolivarian Republic of]) reported a national excise tax on alcohol based on alcohol price. In the majority of these countries, the specific excise tax is not adjusted for inflation or changes in income.
- ▶ In Argentina and Uruguay, while excise taxes were reported for beer and spirits, no alcohol excise taxes were reported for wine.
- ▶ Furthermore, there were no alcohol excise taxes reported for Antigua and Barbuda, and Cuba.
- ▶ Minimum pricing is used in numerous provinces and territories of Canada (many provinces also apply an ad valorem excise tax).



## Other considerations of taxation

- ▶ Alcohol consumption costs more for governments in terms of health care costs, lost productivity costs, criminal justice costs, and other direct costs (i.e., research and prevention, fire damage, motor vehicle damage, and workplace costs not already covered in lost productivity) than governments receive in revenues generated through taxation.
- » The costs of alcohol consumption in upper-middle- to high-income countries range

from 1.4% to 3.3% of gross domestic product (adjusted for purchasing power parity).

- » In Canada, the costs of alcohol have been estimated to be higher than the costs due to tobacco, cannabis, opioids, other central nervous system depressants, cocaine, other central nervous system stimulants, and other substances.
- ▶ Since alcohol causes health, social, and economic harms, excise taxation revenues can be earmarked (i.e., dedicated taxes) towards health programs.
  - » In the Americas, alcohol taxation is earmarked in:
    - Colombia (70% of taxation revenues finance health care);
    - Costa Rica (taxation contributes to the National Council of the Elderly – not alcohol-related harms in particular);
    - El Salvador (taxation contributes to Fosalud);
    - Jamaica (taxation contributes to the National Health Fund);
    - Panama (a proportion of taxation goes towards treating alcohol use disorders).
- ▶ The potential negative impact of alcohol excise taxes on employment is often offset by the creation of jobs elsewhere in the economy because consumers will seek other goods and services to spend the money saved from their reduced consumption of alcoholic beverages.
- ▶ Countries should apply excise taxation equally to imported and domestic alcoholic beverages. In countries where the tax is set on producer price (i.e., ex-factory price), policy should be amended to include imported products (i.e. cost, insurance and freight [CIF] value).
- ▶ Alcohol control using general import duties or value added taxes instead of alcohol specific excise taxation is undesirable, as alcohol specific taxes apply solely to alcoholic beverages, thereby raising the price of alcohol in comparison to other products, such as fruits, vegetables, and water, as well as in comparison to services.
- ▶ Increases in excise taxation may lead to increases in the consumption of unrecorded alcohol. Unrecorded alcohol consumption can be reduced through interventions that increase the proportion of alcohol that is taxed. Thus, limiting illegal trade and counterfeiting by the introduction of tax stamps, electronic surveillance systems of the alcohol trade, and increased enforcement, may be effective alcohol control policies. In some countries, home and small-scale artisanal alcohol production may represent most of the non-taxed alcohol market. The production of these products is also not directly affected by taxation.
  - » Such intervention measures include stamps on alcohol products where tax has been applied as proof that taxation has been paid. Honduras and Venezuela use tax stamps for beer, wine, and spirits; Ecuador uses tax stamps for spirits; and Suriname uses tax stamps on wine and spirits.
- ▶ Excise taxation and pricing policies are only two of the numerous alcohol control interventions that can reduce the harms caused by alcohol use. Other cost-effective WHO “best buys” include restrictions on availability and on the marketing of alcoholic beverages. Other effective policies include countermeasures against driving under the influence of alcohol and their better enforcement, and expansion of the treatment of people with alcohol use disorders, including screening and brief interventions.
  - » The implementation of comprehensive and complementary strategies is synergistic, whereby the effects of interventions together are greater than the individual impacts. Therefore, comprehensive, country-specific strategies aimed at reducing alcohol consumption should not be limited to excise taxation measures.

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