Economic costs by alcohol in Mexico

Key Messages

1. Alcohol consumption causes significant and a growing burden of disease through premature death and disability in Mexico.
2. The burden of disease attributable to alcohol causes considerable economic costs—likely more than 2.1 percent of the national Gross Domestic Product.
3. The economic costs attributable to alcohol far surpass the tax revenue collection from alcoholic beverages and the broader contribution of the alcohol industry to the economy.
4. Raising prices of alcoholic beverages through excise taxes is the most cost-effective and potentially most effective intervention to reduce the consumption of alcohol and its negative consequences.
5. Strengthening the excise tax on alcoholic beverages could help the Mexican Government to collect more revenues that could in part offset the economic costs by alcohol.

Background

Alcohol consumption is associated with more than 200 diseases including at least six cancers, premature death, disability, violence, traffic crashes, injuries, and other undesirable economic and social consequences. In 2019 alone, according to the World Health Organization, alcohol caused 2.6 million deaths worldwide (World Health Organization, 2024) and nearly 39,000 in Mexico in 2021 (Institute for Health Metrics and Evaluation, 2024).

The health-harming consequences of alcohol consumption are primarily the premature death and disability caused by diseases and conditions associated with alcohol use. Premature mortality by alcohol is typically measured in years of life lost (YLL), while disability is measured using the years lived with disability (YLD). The YLL are calculated in a population by multiplying the deaths attributable to alcohol by the standard life expectancy at the age that the deaths occurred. Meanwhile, the YLD are calculated by multiplying the prevalence of diseases and conditions attributed to alcohol by their respective disability weights (Ferrari et al., 2024). The sum of the YLL and the YLD is the disability-adjusted life-years (DALYs). Therefore, the DALYs are a comprehensive metric of the burden of disease in a country or territory. The Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) provides internationally comparable information on disease burden estimates.

The significant harm to the health of individuals and the population caused by alcohol, represented by these DALYs, imposes sizeable economic costs. These costs are both direct and indirect. Direct costs include the expenses related to health care, such as medicines, devices, inputs, qualified health care, facilities, and others. Because direct cost estimates require exhaustive inputs and time-intensive detailed costs analyses for each disease associated with alcohol consumption, there is limited research. Indirect costs encompass the time of patients and families consumed by diseases and conditions and, thus, are largely related to productivity losses (Drummond, 2007), for example, when an individual cannot work because of an alcohol-related illness or when a working-age person dies prematurely. In contrast to direct costs, we can utilize DALYs more easily to generate defensible estimates of indirect ones.

To calculate the value of the burden of disease caused by alcohol in Mexico, we combined DALY estimates from the GBD Study (Institute for Health Metrics and Evaluation, 2024) with the Human Capital Approach (HCA) (Zweifel et al., 2009). In this method, a measure of productivity is required, and we assumed that 1 GDP per capita is equivalent to a DALY, following the Copenhagen Consensus (Arias et al., 2022). To calculate the indirect economic costs attributable to alcohol in Mexico, we multiplied the DALYs by the corresponding GDP[1] per capita in Mexican pesos (MXN) (World Bank, 2024). To have a raw estimate of the direct costs attributable to alcohol, we assumed that these are one third of the total costs based on a recent systematic review and modeling study (Manthey et al., 2021).

We compared the estimate of total economic costs with the revenue collection from alcoholic beverages from the Ministry of Finance (Secretaría de Hacienda y Crédito Público, 2023) and total payments to workers in the alcohol industry[2] using the Monthly Survey of the Manufacturing Industry, produced by the National Institute of Statistics and Geography (Instituto Nacional de Estadística y Geografía, 2024).

Findings

Alcohol is a significant driver of the burden of disease and caused 3.75 percent of the DALYs in Mexico, with an increasing trend. Table 1 shows the economic costs caused by alcohol in Mexico. Total costs caused by alcohol were calculated at 2.1% of the Mexican GDP. These numbers are in line with Manthey et al. (2021), who found that the mean costs of alcohol amounted to 1.5% of GDP and when adjusting for all omitted components these costs could increase to 2.6 percent of the GDP in the countries included in their study.

Table 1. Costs caused by alcohol by age group, Mexico, 2021.

		DALYs	Indirect costs (Billion MXN)	Direct costs (Billion MXN)	Total costs (Billion MXN)	% of GDP
Females						
	<20 years	7884	1.7	0.8	2.5	0.0%
	20+ years	138303	29.1	14.5	43.6	0.2%
	Total	146186	30.7	15.4	46.1	0.2%
Males						
	<20 years	45673	9.6	4.8	14.4	0.1%
	20+ years	1560291	327.8	163.9	491.7	1.8%
	Total	1605964	337.4	168.7	506.1	1.9%
Females + males						
	<20 years	53557	11.3	5.6	16.9	0.1%
	20+ years	1698594	356.9	178.4	535.3	2.0%
	Total	1752151	368.1	184.1	552.2	2.1%

Notes: own calculations based on DALYs estimates by the IHME and GDP and GDP per capita from the World Bank.

The attributable costs caused by alcohol are greater for the 20+ year-olds compared to the younger age group. By sex, the burden of disease caused by alcohol, and, thus the economic costs, are greater among males, because alcohol consumption has been traditionally linked to personal violence and risk-taking behaviors more common among

[1] Gross Domestic Product.

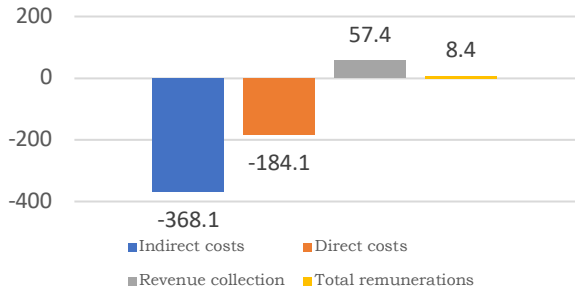
[2] Remunerations corresponding to the total number of employees of the alcohol industry, under the North American Industry Classification System (NAICS) codes 31212 (beer), 31213 (fermented beverages based on grapes except beer), and 31214 (distilled beverages, except those from grape). The survey sample size covers a significant fraction of the economic units of this industry.

men (Ragonese & Barker, 2019). Importantly, it is necessary to acknowledge that these costs do not include the indirect costs related to caregiving, which in most countries relies heavily on women (Rodríguez, n.d.). In Mexico, nearly 75 percent of time for caregiving is spent by women (Guerrero-López et al., 2024; Instituto Nacional de Estadística y Geografía, n.d.). More research is needed regarding direct costs in the country.

Figure 1 shows a comparison between the economic costs and the revenue collection from alcoholic beverages and total payments to workers in the alcohol industry in 2021. While the total costs rise to 552.2 billion MXN in 2021, the revenue collection from alcoholic beverages reported by the Ministry of Finance in the same year was 57.4 billion MXN and the payments to workers reached only 8.4 billion MXN, which, despite not covering the whole industry, is a negligible amount. Value added tax (VAT) paid by the producers is not publicly available, but would be around 37.8 billion MXN considering the ratio between VAT and excise tax described in the WHO's global report on the use of alcohol taxes (World Health Organization, 2023). The corporate tax figures are not publicly available, but we expect that these are similarly negligible compared to the costs caused by alcohol after tax deductions.

While the indirect cost estimates are substantial following the HCA, other methods for valuing health outcomes, such as the Willingness to Pay Approach (WTP),[3] would value the mortality attributable to alcohol in greater amounts. For instance, according to the GBD Study, there were 38,853 deaths caused by alcohol consumption in 2021, that would imply indirect costs of 1.18 trillion MXN (3.2 times higher than the HCA). Thus, the estimates presented in this note should be considered as a minimum bound (i.e., a very conservative estimate) of the true indirect costs caused by alcohol in Mexico.

Figure 1. Economic costs attributable to alcohol, revenue collection from alcoholic beverages, and remunerations paid by the alcohol industry. Mexico, 2021. Billion MXN.



Conclusion

Alcohol consumption is related to a considerable burden of disease through premature death and disability, which in turn, imposes substantial costs to society and the economy while concentrating the benefits to the alcohol industry owners.

Interventions, such as those included in the WHO's SAFER initiative (Organización Panamericana de la Salud, 2020), are effective to reduce alcohol consumption and the related negative consequences.

Raising prices of alcoholic beverages through increased excise taxes and better tax structures are among the most cost-effective and potentially the most effective interventions to reduce alcohol consumption (Babor et al., 2023; Lauer et al., 2022; World Health Organization, n.d.). Better tax structures—such as a specific tax based on alcohol content that is increased annually above the

[3] In this method, valuations the society's willingness to pay for reductions in risks of mortality are calculated. To produce our estimates, we followed the OECD transfer method,(OECD, 2016) starting from a Value of Statistical Life from a meta-analysis of meta-analysis(Banzhaf, 2022) and GDP per capita values from the World Bank.(World Bank, 2024)

combination of inflation and income growth to make alcoholic beverages consistently less affordable over time—could facilitate regular and large increases, and incorporate the harm caused by alcohol in the price of these products.

In addition, raising taxes on alcoholic beverages could help the Mexican government to collect more revenue that could be used to fund health care and other strategies aimed to mitigate the pernicious consequences of alcohol consumption and to engender broader prosperity and strong public health.

References

Arias, D., Saxena, S., & Verguet, S. (2022). Quantifying the global burden of mental disorders and their economic value. *eClinicalMedicine*, *54*, 101675. https://doi.org/10.1016/j.eclinm.2022.101675

Babor, T., Casswell, S., Graham, K., Huckle, T., Livingston, M., Österberg, E., Rehm, J., Room, R., Rossow, I., & Sornpaisarn, B. (2023). *Alcohol: No ordinary commodity: research and public policy* (Third edition). Oxford University Press.

Banzhaf, H. S. (2022). The Value of Statistical Life: A Meta-Analysis of Meta-Analyses. *Journal of Benefit-Cost Analysis*, *13*(2), 182–197. https://doi.org/10.1017/bca.2022.9

Drummond, M. F. (Ed.). (2007). *Methods for the economic evaluation of health care programmes* (3. ed., reprint). Oxford Univ. Press.

Ferrari, A. J., Santomauro, D. F., Aali, A., Abate, Y. H., Abbafati, C., Abbastabar, H., Abd ElHafeez, S., Abdelmasseh, M., Abd-Elsalam, S., Abdollahi, A., Abdullahi, A., Abegaz, K. H., Abeldaño Zuñiga, R. A., Aboagye, R. G., Abolhassani, H., Abreu, L. G., Abualruz, H., Abu-Gharbieh, E., Abu-Rmeileh, N. M., … Murray, C. J. L. (2024). Global incidence, prevalence, years lived with disability (YLDs), disability-adjusted life-years (DALYs), and healthy life expectancy (HALE) for 371 diseases and injuries in 204 countries and territories and 811 subnational locations, 1990–2021: A systematic analysis for the Global Burden of Disease Study 2021. *The Lancet*, *403*(10440), 2133–2161. https://doi.org/10.1016/S0140-6736(24)00757-8

Guerrero-López, C. M., Serván-Mori, E., Jan, S., Downey, L., Heredia-Pi, I., Orozco-Núñez, E., Muradás-Troitiño, M. D. L. C., & Norton, R. (2024). Gender disparities in lost productivity resulting from non-communicable diseases in Mexico, 2005–2021. *Journal of Global Health*, *14*, 04121. https://doi.org/10.7189/jogh.14.04121

Institute for Health Metrics and Evaluation. (2024, June). *Global Burden of Disease Study 2021*. GBD Compare. https://vizhub.healthdata.org/gbd-compare/

Instituto Nacional de Estadística y Geografía. (n.d.). *Encuesta Nacional para el Sistema de Cuidados (ENASIC) 2022*. Retrieved October 2, 2023, from https://www.inegi.org.mx/programas/enasic/2022/

Instituto Nacional de Estadística y Geografía. (2024). *Encuesta Mensual de la Industria Manufacturera (EMIM). Serie 2018*. https://www.inegi.org.mx/programas/emim/2018/

Lauer, J. A., Sassi, F., Soucat, A. L. B., Vigo, A., & Weltgesundheitsorganisation (Eds.). (2022). *Health taxes: Policy and practice*. World Scientific.

Manthey, J., Hassan, S. A., Carr, S., Kilian, C., Kuitunen-Paul, S., & Rehm, J. (2021). What are the Economic Costs to Society Attributable to Alcohol Use? A Systematic Review and Modelling Study. *PharmacoEconomics*, *39*(7), 809–822. https://doi.org/10.1007/s40273-021-01031-8

OECD (Ed.). (2016). *The economic consequences of outdoor air pollution*. OECD Publishing. https://doi.org/10.1787/9789264257474-en

Organización Panamericana de la Salud. (2020). *El paquete técnico SAFER. Un mundo libre de los daños relacionados con el alcohol*. PAN AMERICAN HEALTH ORG. https://iris.paho.org/handle/10665.2/51867

Ragonese, C., & Barker, G. (2019). Understanding masculinities to improve men's health. *The Lancet*, *394*(10194), 198–199. https://doi.org/10.1016/S0140-6736(19)31609-5

Rodríguez, L. (n.d.). Unpaid Care Work: Everything You Need to Know. *Global Citizen*. Retrieved September 28, 2023, from https://www.globalcitizen.org/en/content/womens-unpaid-care-work-everything-to-know/#:~:text=Unpaid%20care%20work%20includes%20household,duties%20than%20men%20and%

20boys.
Secretaría de Hacienda y Crédito Público. (2023). *Estadísticas Oportunas de las Finanzas Públicas*. http://presto.hacienda.gob.mx/EstoporLayout/
World Bank. (2024). *World Development Indicators*. World Development Indicators. https://databank.worldbank.org/source/world-development-indicators
World Health Organization. (n.d.). *WHO technical manual on alcohol tax policy and administration*. WHO. Retrieved March 12, 2024, from https://www.who.int/publications/i/item/9789240082793
World Health Organization. (2023). *Global report on the use of alcohol taxes. 2023*. World Health Organization. https://www.who.int/publications/i/item/9789240086104
World Health Organization. (2024). *Global status report on alcohol and health and treatment of substance use disorders*. World Health Organization. https://www.who.int/publications/i/item/9789240096745
Zweifel, P., Breyer, F., & Kifmann, M. (2009). *Health economics* (2nd ed). Springer.

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