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Tobacco Control Policy

Tobacconomics Cigarette Tax Scorecard

2nd Edition



Scoring Component Policy Note – Tax Structure

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About Tobacconomics: Tobacconomics is a collaboration of leading researchers who have been studying the economics of tobacco control policy for over 30 years. The team is dedicated to helping researchers, advocates, and policy makers access the latest and best research about what's working—or not working—to curb tobacco consumption and its economic impacts. As a program of the University of Illinois Chicago, Tobacconomics is not affiliated with any tobacco manufacturer. Visit www.tobacconomics.org or follow us on Twitter at [www.twitter.com/tobacconomics](https://twitter.com/tobacconomics).

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The Tobacconomics Cigarette Tax Scorecard evaluates countries' cigarette tax systems based on a five-point rating system that incorporates international guidance and best practices in tobacco taxation developed by the World Health Organization (WHO), the WHO Framework Convention on Tobacco Control (FCTC), the World Bank (WB), and academics and researchers worldwide. The five-point index uses data from the World Health Organization's biennial *Report on the Global Tobacco Epidemic (RGTE)* (WHO, 2021a) to score countries on the following four components: cigarette price, changes in the affordability of cigarettes over time, the share of taxes in retail cigarette prices, and the structure of cigarette taxes. The total score reflects an average of the four component scores.

Why is tax structure important?

Tobacco tax structures—the types of taxes that are applied to tobacco products—play an important role in the effectiveness of taxation in reaching the public health and revenue goals of governments. Tobacco products are typically subject to excise taxes, which are either specific or ad valorem. Specific taxes are assessed per unit of the product (for example, a stick or a pack), while an ad valorem excise tax is a tax that is assessed as a percentage of value (for example manufacturer price or retail price). In some places, both ad valorem and specific taxes are levied, thereby comprising a mixed (or hybrid) system. Still other jurisdictions set different tax levels depending on the product features, such as the length of the cigarette or the pack's price category. Many of these tax structures are called tiered tax systems.

The structure of tobacco excise taxes greatly affects cigarette price and its variation, which further affects smoking behavior. Uniform specific excise taxes reduce price variability, while ad valorem excises and tiered tobacco tax structures result in greater variability in prices (Chaloupka et al., 2010, 2014; Shang et al., 2014; WHO, 2010, 2014, 2021b). The greater variability in prices creates more opportunities for tobacco users to trade down to cheaper brands in response to tax and price increases, rather than quitting or cutting back on consumption (World Bank, 2017; WHO, 2010, 2014, 2021b). Specific excise taxes are reported to be more effective in raising consumer prices compared to ad valorem taxes and, thus, result in greater reductions in cigarette consumption (Delipalla & Keen, 1992; Delipalla & O'Donnell, 2001; WHO, 2010). Studies have shown that complicated tax structures, such as tiered tax structures and systems with a greater share of ad valorem taxes, are associated with higher cigarette consumption compared to uniform specific tax structures (Shang et al., 2019).

The ease of administration is another key determinant linking tax structure and government revenue. The WHO FCTC's Article 6 Guidelines and the *WHO Technical Manual on Tobacco Tax Policy and Administration* emphasize the benefits of uniform specific taxation since it is easier to implement and administer. This is because uniform specific taxes are based only on volume/quantity, and not on the value of the product, which can be difficult to ascertain (WHO, 2010, 2014, 2021b). Ad valorem taxes and/or tiered tax structures are more difficult to administer because they are more complex and create more opportunities for tobacco manufacturers to avoid and/or manipulate the tax. In tiered systems, manufacturers have strong incentives to try to place their products in tiers with lower tax rates. Similarly, with an ad valorem tax, tobacco companies can reduce tax liability by pricing their product on a lower level. Furthermore, due to the complexity of ad valorem taxes and tiered tax structures, tax revenues from these taxes are more difficult to forecast, less stable, and more dependent on industry pricing strategies (WHO, 2014).

In addition to the type of excise tax, there are other features in the tax structure that can help to maintain or increase the positive effects of cigarette taxes. First, since the impacts of a specific tax tend to erode over time—especially in countries experiencing rapid economic growth and/or high inflation—linking the specific tax rates to the inflation rates and income growth can help maintain the impact of the tax and thus keep the affordability of tobacco products from increasing over time (WHO, 2014).

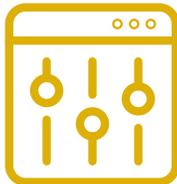
Second, the base of the ad valorem tax has significant consequence. Generally, the retail price as the base is most effective at preventing tax avoidance and evasion because it is the most transparent. It is also typically the highest price. In contrast, in systems where the ad valorem tax is based on the manufacturer's (ex-factory) price; the cost, insurance, and freight (CIF) price; or the wholesale price, manufacturers can simply evade the tax by artificially lowering the product price at the earlier stages of the value chain where the tax is assessed and move their costs further up the chain (WHO, 2014, 2021b).

Third, some governments that levy an ad valorem tax also utilize a minimum tax. Such a tax creates a price floor below which cigarettes cannot be sold, pushing up the prices of economy brands and reducing the price variation between brands. Governments not only gain more revenue from the higher-priced brands, but a minimum tax guarantees that amount of revenue from lower-priced brands (WHO, 2014). While minimum pricing policies can also set a price floor, the revenues from these policies go to the industry rather than to the government.

For these reasons, the cigarette tax structure is a key part of evaluating the performance of a country's cigarette tax system and is included as a primary scoring component.

Scoring criteria of tax structure

The Scorecard adopts the following scoring scheme:



Scoring – Cigarette Tax Structure:

- 5: A uniform specific tax with automatic adjustment or a mixed system with greater share of specific tax, with an automatic adjustment for the specific component, the retail price as the base for the ad valorem component, and a minimum tax to lift the prices of economy brands
- 4: Uniform specific or mixed with greater share of specific with some other features but not all
- 3: Uniform mixed system with greater share of ad valorem
- 2: Uniform ad valorem
- 1: Tiered tax
- 0: No excise

Strengths and weaknesses of the measure

A major strength of the tax structure measure is that, among all four measures constituting the Scorecard's cigarette tax score, tax structure is the only measure that captures dynamics of price distribution among brands. Whereas tax share, change in affordability, and cigarette price focus on one product price only (the price of the most-sold brand), the extent of variation of prices among brands available on the market is affected by the tax structure. The higher the variation in cigarette prices, the greater the ability of smokers to circumvent the tax by switching to less expensive products. Tax structures that result in a narrower price distribution are more effective in reaching public health goals.

Another key aspect of cigarette taxation that is captured by the tax structure measure is the ease of tax administration and reduced opportunities for tax avoidance that are enabled by simplicity. Very complicated tax structures with multiple tax tiers are typically a result of governments yielding to tobacco industry pressure, which is often seen in countries with lower capacity or in the early stages of reforming their tobacco tax regimes. The tiers often serve to secure the interest of different actors in the tobacco industry by providing preferential tax treatment to certain groups (for example, companies with specific products and very commonly those that are produced domestically). It is also easier for the tobacco companies to avoid or evade taxes under complicated tax systems. Conversely, it is more difficult to manipulate systems that are based on a uniform specific tax.

As with the other three measures, the tax structure measure has potential weaknesses. Countries with a system based on a specific tax may obtain a high score for their cigarette tax structure, even with a low tax and relatively low cigarette prices. This is the case in several Caribbean countries (for example, Saint Lucia as well as Saint Vincent and the Grenadines) that score high on the tax structure measure by applying a uniform specific tax while keeping the tax rates very low.

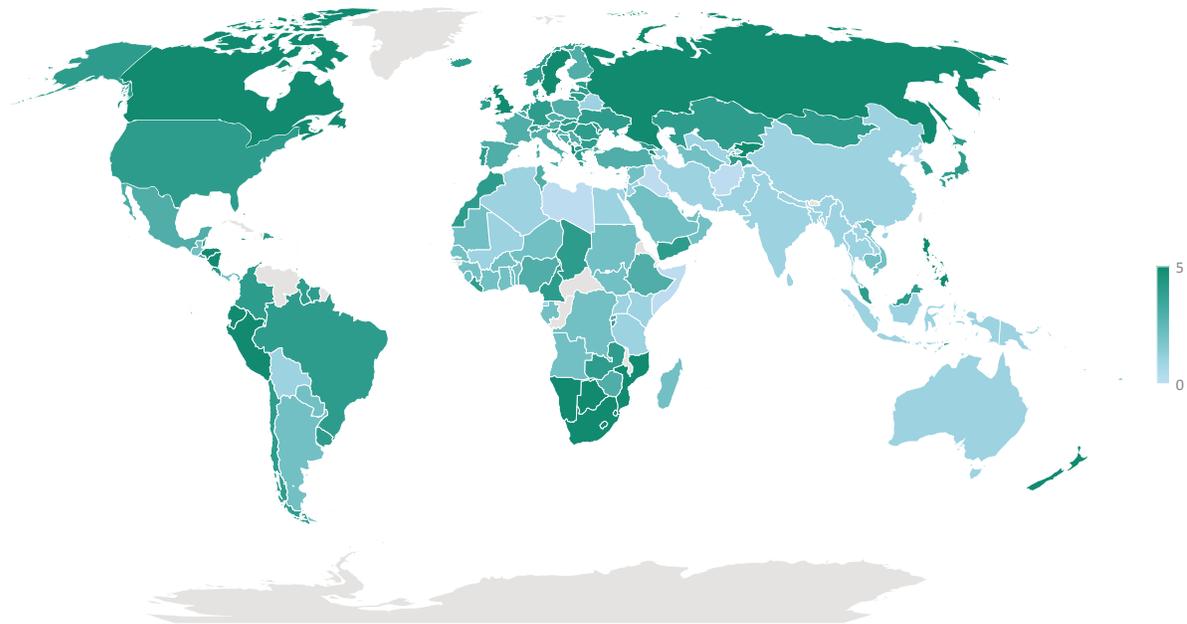
The scoring system provides lower scores to countries that use ad valorem systems because, as described above, those systems provide more opportunities for tax circumvention, allow for larger variation among product prices, and are more difficult to administer. However, countries can successfully apply a high ad valorem tax along with a high minimum tax that results in high prices and high tax shares. Such countries include Finland and France, which both have a mixed tax with a greater portion of the ad valorem tax but with a relatively high minimum excise tax rate. In such cases, the high minimum excise tax plays a vital role in decreasing price variation and keeping prices high. Both countries score three out of five on their tax structure score despite having rather high taxes relative to other countries, a high minimum tax to raise the prices of the cheapest cigarettes, and a strong tax administration to safeguard effective tax collection.

Tax structure scores in 2020

Figure 1 presents the tax structure scores for 2020. Of the 178 countries with available data, 19 countries received the highest score of five. Of these, 16 countries implement a uniform specific cigarette excise tax that is automatically adjusted for inflation or other factors: Albania, Armenia, Botswana, Canada, Ecuador, Eswatini, Honduras, Kyrgyzstan, Lesotho, Mozambique, Namibia, New Zealand, Nicaragua, Peru, the Philippines, and South Africa. The other three countries apply a uniform mixed system with a greater share for the specific tax, an automatic adjustment for the specific tax, a retail price base for the ad valorem tax, and a minimum specific tax: Russian Federation, Sweden, and the United Kingdom.

An additional 64 countries use either a uniform specific tax that is not automatically adjusted or a mixed system with a greater share of specific tax that does not include each of the three features required for the highest score. Twenty-three countries use a uniform mixed system that gives greater weight to the ad valorem component, while 32 apply a uniform ad valorem system. There are 27 (down from 31 in 2018) countries that use some form of tiered excise tax structure, with rates varying based on price, cigarette length, presence of a filter, cigarette packaging, production type and/or level, and/or other factors. Georgia, Japan, Mozambique, and the Republic of Moldova transitioned from a tiered excise tax structure and scored higher on this component. Finally, 13 countries do not levy an excise tax on cigarettes, instead relying on import duties and/or other taxes.

Figure 1 Tax structure scores, 2020



Note: Countries in gray lack available data on this measure.

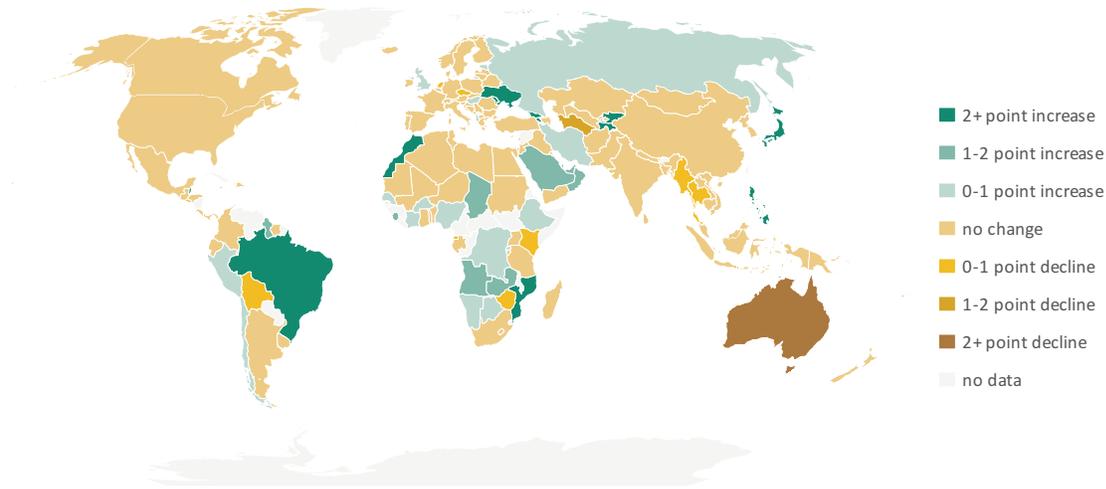
Change over time

As demonstrated in Figure 2 below, tax structure scores have changed little over time, rising from a global average score of 2.48 in 2014 to 2.87 in 2020. The vast majority of countries have not changed their tax structures during this period. The most significant changes to tax structure were implemented in Armenia, Belize, Kyrgyzstan, Mozambique, and the Philippines. After having no cigarette excise tax, Belize introduced a uniform specific excise, raising its score for this component from zero to four. Meanwhile Armenia, Kyrgyzstan, Mozambique, and the Philippines went from a tiered tax system to a uniform specific excise tax with automatic adjustments, raising their scores from one to five. An additional 37 countries saw improvements in their tax structure score from 2014 to 2020.

In contrast, 13 countries saw their tax structure score fall from 2014 to 2020, including Kenya (which reinstated a tiered specific tax in 2015), Thailand (the replacement of a uniform ad valorem tax with a tiered ad valorem tax based on price), and Turkmenistan (a change from a uniform specific to a uniform ad valorem tax). The largest score declines were seen by Australia and Lebanon. For Australia, the decline is due to a change in how the tax structure was reported to WHO for the most recent WHO *RGTE*. However, for Lebanon, the decline in score is due to a new exemption of local producers from the excise tax on tobacco. Because the local brands are the most-sold brands, Lebanon received a score of zero for its tax structure.

The average tax structure scores by WHO regions are presented in Figure 3. The European region and the region of the Americas are the highest-performing regions. The lowest-scoring regions are South-East Asia and the Eastern Mediterranean. The low score for the South-East Asia region reflects the tiered cigarette excise tax systems implemented in many of the region's countries, including Bangladesh, India, Indonesia, Myanmar, Nepal, Sri Lanka, and Thailand, while the low score for the Eastern

Figure 2 Changes in countries' tax structure scores, 2014–2020

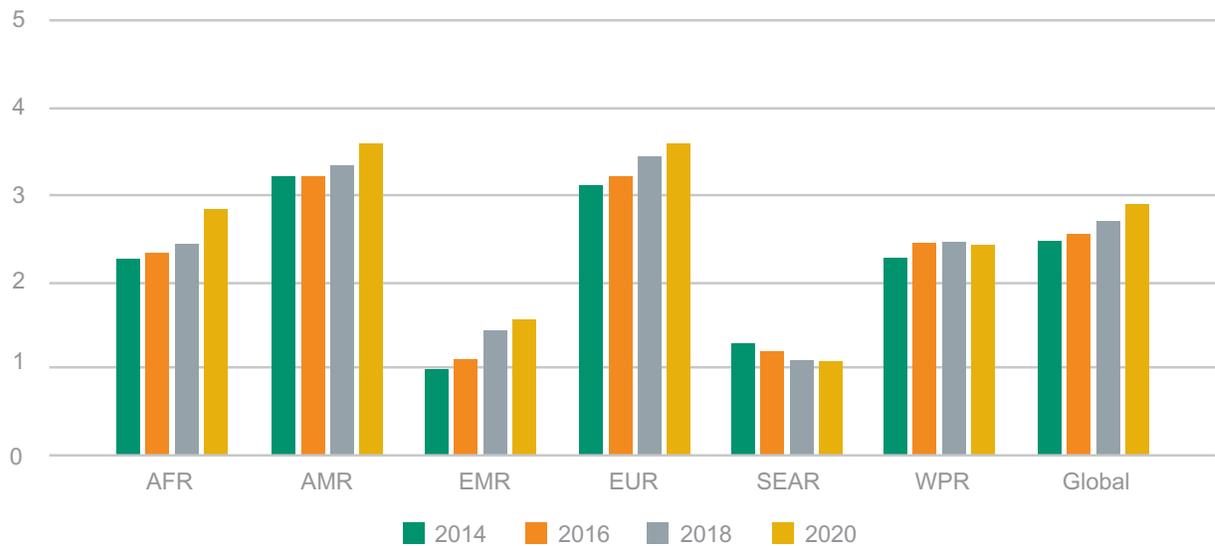


Note: Countries in gray lack available data on this measure.

Mediterranean region results from the lack of a cigarette excise tax in several countries, including Afghanistan, Iraq, Kuwait, Libya, and Somalia, and a reliance on ad valorem-based structures in many others. From 2014 to 2020, the African region showed the largest gains in tax structure score average (+0.59 points), while the average in the South-East Asia region decreased slightly (-0.20 points). Among the African region countries, Mozambique had the largest increase in the structure score, which was due to a change from a tiered excise tax structure (score of 1) to a uniform specific cigarette excise tax that is automatically adjusted for inflation or other factors (score of 5).

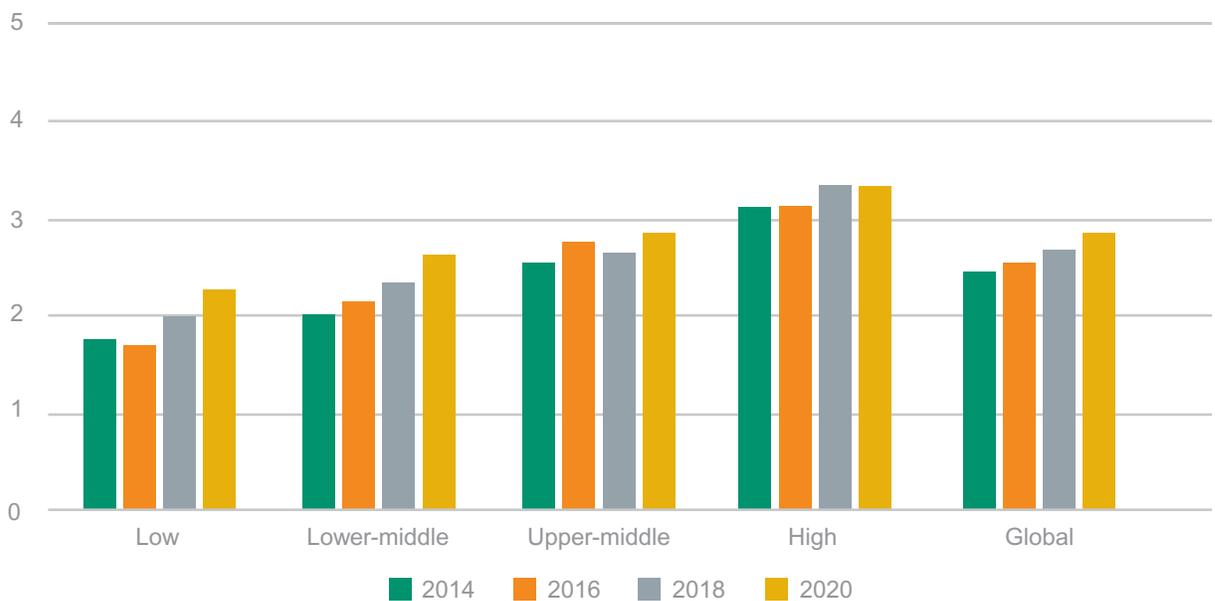
The average scores by World Bank income groups are presented in Figure 4. As with the cigarette price and tax share measures, tax structure scores rise with income. While all income groups show increases in tax structure scores from 2014 to 2020, the lower-middle-income countries exhibit the largest average score gains relative to other income groups. Among the lower-middle-income countries, the improvements of Kyrgyzstan and the Philippines were the largest of those whose tax structure changed from a tiered tax system to uniform specific excise tax with automatic adjustments, followed by Belize, whose tax structure changed from having no excise to a uniform specific excise.

Figure 3 Average tax structure scores, globally and by WHO region, 2014–2020



Note: Scores reflect updated cigarette price information in the most recent *RGTE* data and GDP information from the World Bank database, which was used for price adjustments. A full list of affected countries can be found in Appendix 4 of the Scorecard, second edition.

Figure 4 Average tax structure scores, globally and by World Bank income group, 2014–2020



Note: Scores reflect updated cigarette price information in the most recent *RGTE* data and GDP information from the World Bank database, which was used for price adjustments. A full list of affected countries can be found in Appendix 4 of the Scorecard, second edition.

Policy recommendations

The Scorecard results on tax structure show that there is considerable room to improve cigarette tax structures. For example, ten countries scored zero throughout all four years, which means there is no excise applied to cigarettes in these countries. Better-designed cigarette tax structures are effective at reducing tobacco use because these structures are more likely to lead to higher, less variable prices, which the evidence demonstrates reduce both smoking prevalence and intensity. Therefore, better structures can help to reduce the burden of smoking-attributable diseases and, thus, improve population health.

Large and regular increases in cigarette tax rates ensure that the product prices remain high and that cigarettes become less affordable over time. An appropriate tax structure provides the platform for those tax increases, safeguards their effectiveness, and ensures that all brands are equally covered by cigarette tax policies. These well-designed tax structures help facilitate higher and more effective cigarette taxes, which not only help countries achieve public health goals but also increase government revenue that can be allocated to development priorities, including health and education.



References

- Chaloupka, F. J., Kostova, D., & Shang, C. (2014). Cigarette excise tax structure and cigarette prices: Evidence from the Global Adult Tobacco Survey and the US National Adult Tobacco Survey. *Nicotine & Tobacco Research*, 16(Suppl 1), S3-S9.
- Chaloupka, F. J., Peck, R., Tauras, J. A., Xu, X., & Yurekli, A. (2010). *Cigarette excise taxation: the impact of tax structure on prices, revenues, and cigarette smoking*. National Bureau of Economic Research Working Paper 16287. DOI 10.3386/w16287
- Delipalla, S., & Keen, M. (1992). The comparison between ad valorem and specific taxation under imperfect competition. *Journal of Public Economics*, 49(3), 351-367.
- Delipalla, S., & O'Donnell, O. (2001). Estimating tax incidence, market power and market conduct: The European cigarette industry. *International Journal of Industrial Organization*, 19(6), 885-908.
- Shang, C., Chaloupka, F. J., Zahra, N., & Fong, G. T. (2014). The distribution of cigarette prices under different tax structures: Findings from the International Tobacco Control Policy Evaluation (ITC) Project. *Tobacco Control*, 23(Suppl 1), i23-i29.
- Shang, C., Lee, H. M., Chaloupka, F. J., Fong, G. T., Thompson, M., & O'Connor, R. J. (2019). Association between tax structure and cigarette consumption: Findings from the International Tobacco Control Policy Evaluation (ITC) Project. *Tobacco Control*, 28(Suppl 1), s31-s36.

World Bank. (2017). *Tobacco tax reform at the crossroads of health and development*.

World Health Organization. (2010). *WHO technical manual on tobacco tax administration*.

World Health Organization. (2014). *Guidelines for implementation of Article 6 of the WHO FCTC*.

World Health Organization. (2021a). *WHO report on the global tobacco epidemic, 2021: Addressing new and emerging products*.

World Health Organization. (2021b). *WHO technical manual on tobacco tax policy and administration*.