

Section 3
Price Determinants of Demand

Chapter 5
Design and Administration of
Taxes on Tobacco Products

Chapter 5

Design and Administration of Taxes on Tobacco Products

Tobacco taxation has become a critical component of tobacco control policy as well as an effective tool for raising government revenue. This chapter examines the impact of the design and administration of tobacco tax policies on both public health and revenue outcomes. The following topics are considered:

- Tobacco taxation approaches, with examples of the way tobacco excise taxes are implemented around the world
- The effects of types of excise taxes on factors such as pricing, product substitution, product differentiation, and tax avoidance
- The challenges of tobacco tax administration, particularly for low- and middle-income countries with limited resources
- Political considerations in formulating tobacco tax policy.

At present, tobacco taxes and tax policies vary widely across different countries. Further increases in tobacco taxes remain a promising avenue in the global effort to reduce tobacco use.

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Introduction

As described in chapter 4, research has shown that increases in tobacco taxes which result in significant increases in prices are highly effective in reducing tobacco use, particularly by youth and the poor.¹⁻⁶ Article 6 of the World Health Organization (WHO) Framework Convention on Tobacco Control (WHO FCTC) notes that “price and tax measures are an effective and important means of reducing tobacco consumption.” Article 6 requires Parties to the treaty to implement “tax policies, and where appropriate, price policies, on tobacco products so as to contribute to the health objectives aimed at reducing tobacco consumption.” (See Appendix 5A for recommendations provided in the guidelines for implementation of Article 6.) This chapter examines key issues related to manufactured tobacco product tax policy and administration, including the implications of tax structure for prices and tobacco tax revenue.

Taxing tobacco products is an efficient way to raise government revenues because these products are typically produced by a small number of manufacturers, have few ready substitutes, and are an addictive consumer good with relatively inelastic demand—at least in the short term. Consequently, taxes on tobacco products have the potential to generate considerable revenue, and tobacco products are a common target for tax increases. Taxes and import duties have also been used to protect domestic tobacco growers and manufacturers from foreign competition.

Increasingly, tobacco taxation has become part of a public health agenda to reduce tobacco use; increased prices serve as a particularly effective intervention for youth and other population groups at risk of smoking initiation.^{7,8} Tobacco taxation may also serve to fund the societal costs of morbidity and mortality caused by tobacco use.^{7,8} WHO notes that “raising the price of tobacco through increased tobacco taxes is the most effective and efficient way to reduce tobacco use, yet it is the least-used MPOWER measure, with only 10% of the world’s population living in countries with a sufficiently high tax of more than 75% of the retail price of cigarettes in 2014.”^{9,p.78} As a result, “cigarettes are still inexpensive in much of the world,”^{9,p.80} a missed opportunity to reduce tobacco use and improve public health.

This chapter explores best practices in tax design and administration, and highlights how differences in tax structure and administration affect both public health and revenue objectives. The first section of the chapter provides an overview of global excise and other consumption taxes on tobacco products, specifically on cigarettes, which are examined with an emphasis on identifying and discussing differences in types and levels of taxes. Next is a discussion of the implications of using different types of excise taxes on tobacco products. These implications are important when designing tobacco taxes to achieve tax revenue and public health objectives in different market structures. Third, the chapter considers tobacco tax administration and its relation to tobacco control, including issues such as tax code complexity, institutional capacity, the effect of inflation, and prevention of tax avoidance. Finally, political considerations are examined, such as the impact of tobacco taxation on inflation and consumer price indexes, as well as the earmarking of tobacco tax revenues for specific purposes such as tobacco control programs. Additional information and a more in-depth discussion of these issues can be found in the *WHO Technical Manual on Tobacco Tax Administration*.⁶

An Overview of Taxes on Tobacco Products

Tobacco Product Taxes

Taxes on tobacco products can be classified into two general categories: taxes that are applied only to tobacco products (i.e., excise taxes or other similar special consumption taxes), and taxes that affect tobacco products but are levied on other goods and services as well (e.g., import duties, sales taxes, and value-added taxes [VAT]). Because the latter taxes are not specific to tobacco products, they are generally not considered a tobacco control policy tool.

Excise Taxes

Excise taxes are consumption taxes levied on a narrow range of goods consumed within a country, independent of whether they are produced domestically or imported. They differ from import duties which are only levied on imported products and not on domestically produced goods. Excise taxes are either “specific” or “*ad valorem*.” A specific excise tax is a fixed monetary amount per quantity, volume, or weight of tobacco (or a combination of these). An *ad valorem* excise tax is a percentage of some measure of the value of tobacco products; retail, manufacturer, or wholesale prices are often used as the base value.

Excise taxes differ from general consumption taxes or VATs in terms of their taxable objects. Excise taxes target specific products (e.g. tobacco, alcohol, and gasoline) with the following common characteristics:

1. Because the products are typically produced by a small number of manufacturers, their production, distribution, and sale can be closely supervised by governments.
2. The demand for these products is relatively inelastic, so taxing them can generate considerable revenues, while creating few distortions in the market.¹⁰
3. These products are often luxury goods or non-necessities.
4. Use of these products often creates negative externalities, or social costs. (An excise tax is sometimes referred to as a Pigovian tax, or a tax intended to reduce these social costs.¹¹)

Some countries use different names and descriptions for such taxes on tobacco products, even though they may serve the same purposes as excises. These various names and descriptions include: general sales taxes set at a higher rate for cigarettes and other tobacco products, supplementary duties, turnover taxes or special fiscal duties, surtaxes, surcharges, and luxury taxes. A few countries levy additional taxes on tobacco products for which the revenues are earmarked for particular programs (discussed in more detail later).

Value-Added Tax

A VAT is a widely used consumption tax that is applied as a single rate to a broad range of goods and services. It is a general tax on the consumption of commodities, leaving relative prices unaffected, and thus has great practical appeal for revenue generation with minimal distortionary effects. With value-added taxation, there is no double taxing or incidence of cascading. Final consumers bear the full VAT when they purchase the goods. VAT is charged as a percentage of price, and thus the actual tax burden is discernible at each stage in the production and distribution chain. When managing VAT, tax administration does not need detailed information about goods as long as the total value of sales is

recorded at each stage. VAT is generally not considered a tobacco control policy tool since adjusting the rate of VAT does not change the relative prices of products because the rate increases on all substitutes.

Import Duties

In addition to consumption taxes, countries levy import duties, or taxes on selected imported commodities destined for domestic consumption (i.e., not in transit to another country). In general, import duties are collected from the importer at the point of entry into the country, and the rate is often levied on the cost, insurance, and freight (CIF) value declared by the importer. Since import duties only change the relative prices between imported and domestically produced tobacco products, import duties are rarely seen as a tobacco control policy tool. Increasing import duties will increase the cost of imported products relative to domestic products, thereby encouraging consumption of domestic products versus imported products, but not discouraging consumption in the aggregate. In general, countries with no substantial cigarette production and no cigarette excise taxes in place levy import duties on cigarettes for revenue-generating purposes. Some cigarette-producing countries also levy import duties—at widely varying levels—to protect their domestic industry and generate government revenue.

Although almost all countries have historically levied a tariff on imported tobacco products, the growth of international, regional, and bilateral free trade agreements has limited the ability of importing countries to levy import duties on imports, especially from many neighboring countries (discussed in chapter 13). As the effectiveness of import duties in generating higher revenues has fallen, some countries have introduced excise taxes to replace the lost revenues and maintain higher cigarette prices. Reliance on import duties increases the likelihood of abusive transfer pricing, with import prices set at artificially low levels, resulting in low import duties. Because destination-based taxes (as opposed to origin-based taxes) are widely accepted, countries rarely levy taxes on tobacco products destined for export. However, as explained in chapter 14, a few countries have taxed some tobacco product exports to deter those products' entrance back to the country by illegal routes.

Excise Taxes on Cigarettes Around the World

Excise taxes are often applied differently to different categories of tobacco products as well as to different brands within product categories. This chapter focuses primarily on cigarette excise tax application and administration because manufactured cigarettes accounted for 92.3% of total global tobacco product sales in 2015.¹² Furthermore, excise taxes, rather than import duties and VAT, have the most significant ability to affect tobacco product prices.

Types of Excise Systems

Data from a sample of 186 countries demonstrate the substantial variation in the use of specific and *ad valorem* excises. As shown in Table 5.1, as of 2014, only 18 of 186 countries do not levy an excise tax on cigarettes. Of the 168 countries that do levy an excise tax on cigarettes, the types, rates, and base of the excise tax vary; 61 countries levy only a specific excise tax, 46 countries levy only an *ad valorem* excise tax, and 61 countries levy a mixed system of both specific and *ad valorem* excise taxes.

Table 5.1 Types of Excise Taxation on Cigarettes, 2014

Type of tax	Number of countries
Specific excise only	61
<i>Ad valorem</i> excise only	46
Mixed system	61
No excise	18
Total	186

Note: Countries included are those for which data are available.

Source: World Health Organization 2015.⁹

Several types of mixed tax systems involve using both *ad valorem* and specific taxes. For example, countries could implement an *ad valorem* system with a specific floor—that is, an *ad valorem* tax is applied unless the value of the tax is less than a specified minimum amount, at which point a specific tax applies instead. Until November 2015, Kenya implemented such a system: An *ad valorem* rate of 35% of retail prices was levied unless the value of the excise was less than 24 KES (Kenyan shillings) per pack of 20 cigarettes; at that point, a specific tax was applied.¹³ A minimum specific floor could also apply in a mixed system. Another mixed system involves setting a tax as an *ad valorem* rate, but implementing it as a specific tax. For example, South Africa uses a uniform specific tax, but the rate is adjusted each year, such that the total tax (specific tax plus VAT) is set to 52% of the retail price of the most popular brand.¹⁴

Countries within similar income groups and regions often have similar excise systems (Table 5.2). Most low-income countries rely on *ad valorem* taxes (19 of 31). In contrast, most high-income countries (HICs) rely on systems that use both specific and *ad valorem* taxes (29 of 55), and most countries that employ mixed systems are members of the European Union (EU). Most countries in the Western Pacific Region rely solely on specific excises (17 of 26), and a large number of countries in the African Region rely only on *ad valorem* taxation (27 of 45). The Eastern Mediterranean Region has the largest number of countries that do not have an excise tax on cigarettes (10 of 20).

The EU has a harmonized tax system which requires member states to employ a mixed tax system. The EU Directive has two main features, a minimum excise tax burden (percentage share of excise tax in price) of 60% of the weighted average price (WAP), and an excise tax floor (minimum value of excise tax) of 90 euros (€) per 1,000 cigarettes. However, countries need not meet the excise tax burden if the value of the excise tax exceeds €115 per 1,000 cigarettes.¹⁵

The current directive was agreed to in 2010, and EU member states were required to meet their obligations by the beginning of 2014 (2018 for some countries). The current directive replaces a 2006 directive which required an excise tax burden of 57%, an excise tax floor of €64 per 1,000 cigarettes, and an exemption of the excise tax burden if the value of the tax excise exceeded €101 per 1,000 cigarettes. The previous directive also used the Most Popular Price Category (MPPC) rather than the more comprehensive WAP as the base. The revised directive placed greater emphasis on the specific component, requiring that the specific share of the total excise be no less than 7.5% (5.5% previously) or no more than 76.5% (55% previously) of the total tax share.¹⁵

Table 5.2 Types of Excise Taxation on Cigarettes, by WHO Region and Country Income Group, 2014

WHO Region	Excise system on cigarettes				Total countries
	Only specific	Only <i>ad valorem</i>	Mixed system	No excise	
African	13	27	4	1	45
Americas	15	9	7	2	33
Eastern Mediterranean	3	3	4	10	20
European	11	2	39	0	52
South-East Asia	2	2	4	2	10
Western Pacific	17	3	3	3	26
Global	61	46	61	18	186

World Bank country income group	Excise system on cigarettes				Total Countries
	Only specific	Only <i>ad valorem</i>	Mixed system	No excise	
High-income	16	3	29	7	55
Upper middle-income	20	8	18	8	54
Lower middle-income	17	16	12	1	46
Low-income	8	19	2	2	31
Global	61	46	61	18	186

Notes: Countries included are those for which data are available. WHO = World Health Organization. Country income group classification was based on World Bank Analytical Classifications for 2014.

Source: World Health Organization 2015.⁹

These reforms created different binding constraints on countries, as Blecher and colleagues¹⁶ noted. Older EU members, which are mostly high-income countries and have higher cigarettes prices, are bound more by the excise tax burden than the minimum excise. Newer EU member states, which have lower cigarette prices, are bound more by the minimum excise than the excise tax burden. The larger increase in the minimum excise relative to the tax burden, together with the greater reliance on specific taxes, is likely to cause significantly greater excise tax and price increases in newer member states and in member states with lower prices, thus reducing price variation between and within EU countries.

Tax Base and Tiers

The base for excise taxes varies by country. A specific excise tax may be levied based on the number of cigarettes or cigarette packs, or based on the weight of cigarettes. The base value for *ad valorem* taxes also varies across countries, and can be levied on the manufacturer's price (CIF for imported, or ex-factory price for domestically produced), the wholesaler's price/value, or the retail price. More rarely, the base price can be a minimum price set by the government, or a maximum price provided by manufacturers.

Many countries apply a uniform tax rate to all types of cigarettes, while others levy different excises or tiers depending on one or more characteristics of the product or the value of the product. Table 5.3 shows examples of the bases for tiered tax systems in use by various countries as of 2014. Most countries also differentiate the tax rates based on type of tobacco product; higher tax rates are applied more often to cigarettes than to other tobacco products (e.g., smokeless tobacco, roll-your-own tobacco, etc.).

Table 5.3 Bases for Tiered Tobacco Tax Systems, 2014

Base of tiers	Country
Retail price	Bangladesh, Belarus, Indonesia, Mozambique, Pakistan, Philippines*
High, standard, and low-end cigarettes	Burkina Faso
Producer price	China
Production volume	Indonesia
Type of tobacco product	
Filter/non-filter	Armenia, Belarus, Georgia, India, Kyrgyzstan, Moldova, Nepal, Papua New Guinea, Tajikistan, Ukraine, Uzbekistan
Hand- or machine-made	Indonesia
Kretek/white cigarette, cheerot/cigarette, bidi/cigarette	India, Indonesia, Myanmar
Tobacco content (dark/blonde or dark/light)	Algeria, Andorra
Packaging (soft/hard)	Mozambique, Uganda, Brazil†
Cigarette length	India, Nepal, Sri Lanka
Trade (domestic/imported)	Uzbekistan
Weight (tobacco content in cigarette)	New Zealand
Leaf content (domestic/imported)	Fiji, Tanzania

*Philippines will move to a uniform system in 2017.

†Brazil moved to a uniform system as of January 2015.

Note: In 2014, 27 (16%) of 168 countries that levied an excise tax had a tiered system.

Source: Based on data from World Health Organization 2015.⁹

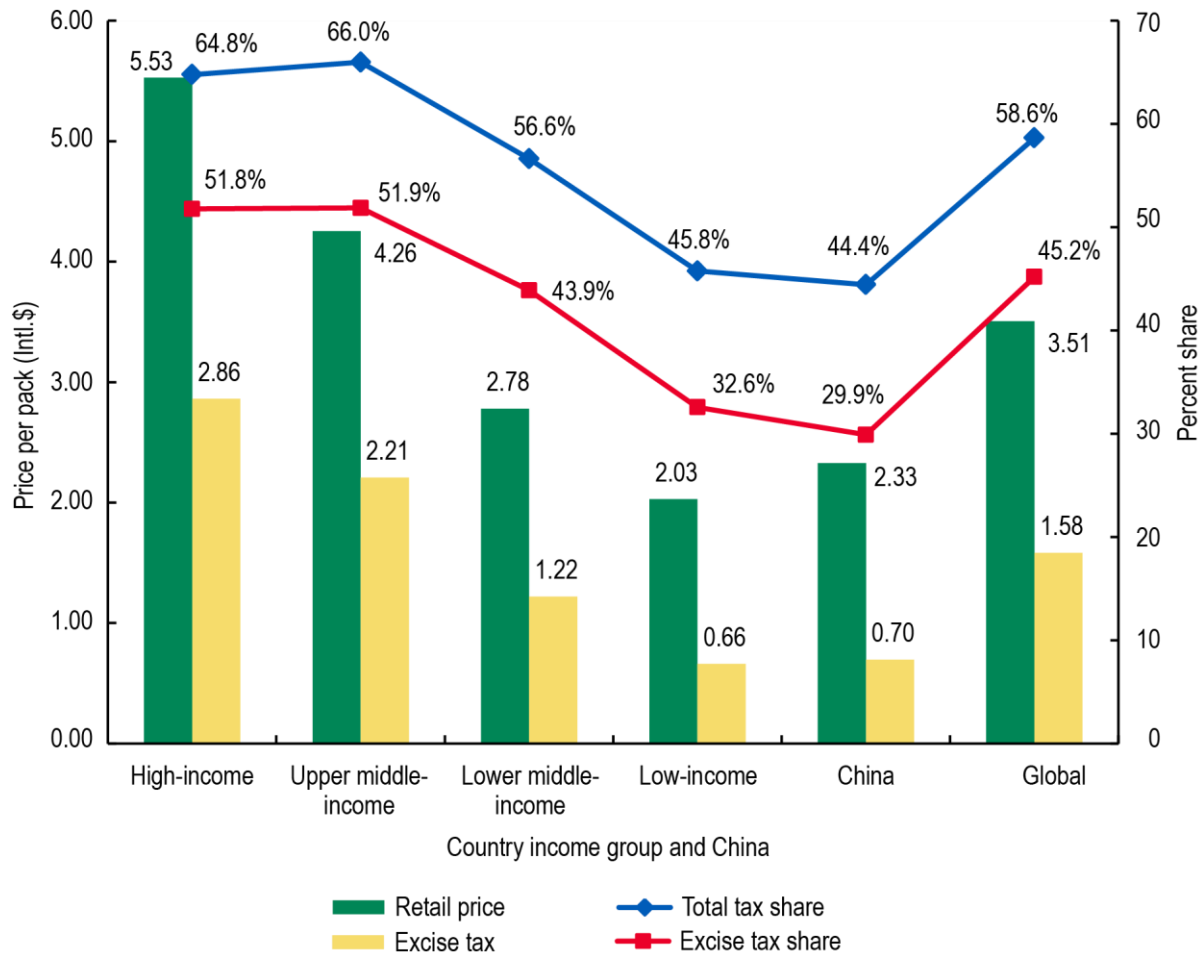
Tax Shares in Retail Prices of Cigarettes

In most countries excise tax is the most significant of all taxes levied on cigarettes. The share of excise and total tax in weighted average prices varies by country income group (Figure 5.1) and WHO Region (Figure 5.2). Total tax includes excise taxes but also includes sales taxes and import duties.

The global average price for a pack of the most popular brand in international dollars purchasing power parity (PPP) was PPP\$ 3.51/pack in 2014 (Figure 5.1), where the PPP exchange rate is the number of units of a country's currency required to buy the same amounts of goods in the domestic market as U.S. dollars would buy in the United States. The price is highest in high-income countries (PPP\$ 5.53) and decreases as country income decreases. The People's Republic of China is a notable exception, with very low taxes and prices despite its status as an upper middle-income country; for these reasons and because of its share of consumption, China is shown separately in Figure 5.1. At the global level, excise taxes and total taxes account for 45.2% and 58.6% of prices, respectively. High-income and upper

middle-income countries have similar tax shares (64.8% and 66.0%, respectively, for total tax; and 51.8% and 51.9%, respectively, for excise tax). The lowest excise and total tax shares are found in lower middle-income countries (excise: 43.9%, total tax: 56.6%) and low-income countries (excise: 32.6%, total tax: 45.8%).

Figure 5.1 Price per Pack in International Dollar Purchasing Power Parity (PPP) of Most Popular Brand and the Share of Excise and Total Tax in Price, by Country Income Group, 2014

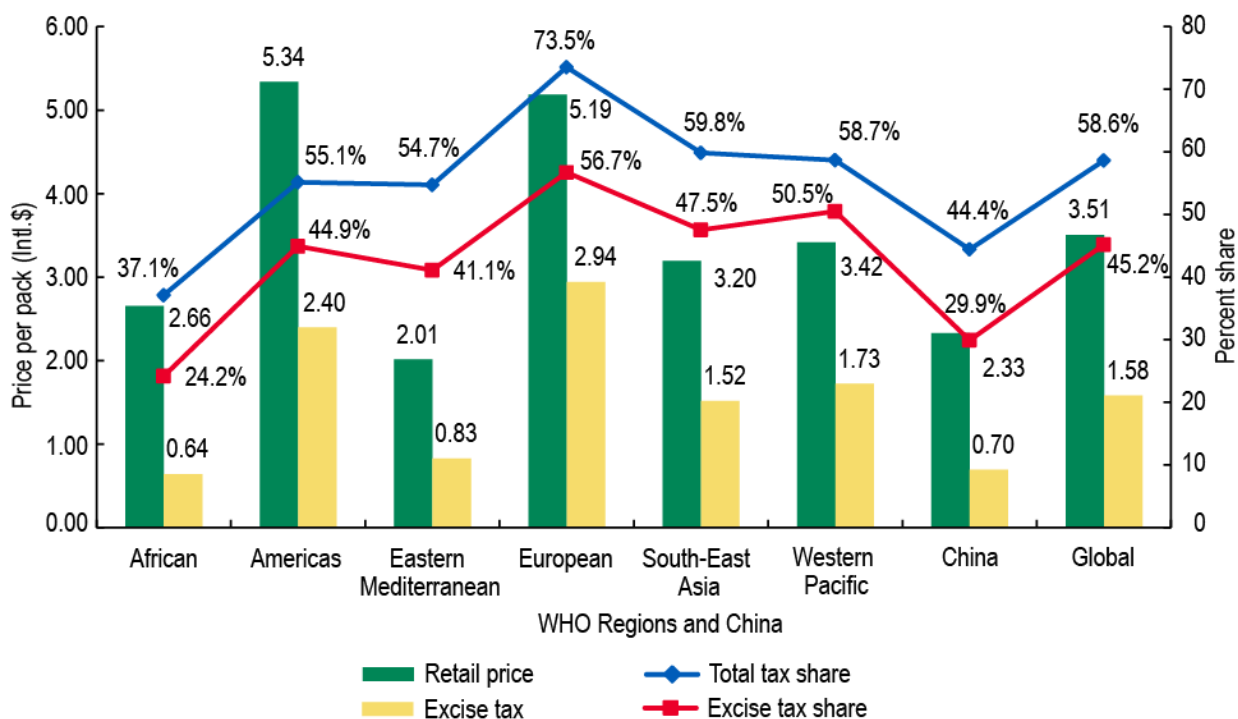


Notes: Averages were weighted by number of current cigarette smokers in each country. Because of its large population, China's estimates were removed from the upper middle-income grouping and displayed separately. Country income group classification was based on World Bank Analytical Classifications for 2014.

Source: Based on data from World Health Organization 2015.⁹

As shown in Figure 5.2, prices are highest in the Region of the Americas (PPP\$ 5.34) and lowest in the Eastern Mediterranean Region (PPP\$ 2.01). The European Region has the highest tax share (73.5%) of all regions. The African Region has the lowest excise (PPP\$ 0.64) and the lowest total (37.1%) tax share.

Figure 5.2 Price per Pack in International Dollar Purchasing Power Parity (PPP) and the Share of Excise and Total Tax in Price, by WHO Region, 2014



Notes: Averages were weighted by number of current cigarette smokers in each country. WHO = World Health Organization.

Source: Based on data from World Health Organization 2015.⁹

VATs have been adopted in many countries, and the rates and bases for these taxes vary considerably across countries. For example, in 2014, the VAT as a percentage of retail price ranged between 0.1% and 9.9% (inclusive) in 44 countries, 10.0% and 14.9% (inclusive) in 58 countries, 15.0% and 19.9% (inclusive) in 56 countries, and 20.0% or greater in 11 countries.⁹ Some countries either do not impose a VAT or exclude tobacco products from their VATs or sales taxes. In 2014, 17 of 188 countries did not levy any VAT or sales tax on tobacco products.⁹ In general, countries levy their VAT on the wholesale price including excise taxes and any import duties (excluding VAT).

Taxes on Other Tobacco Products

In some countries, tobacco products other than cigarettes account for a significant share of total tobacco consumption. These other tobacco products are often taxed at much lower rates than manufactured cigarettes or in some cases are not taxed at all. For example, in India, the lowest tax rate on cigarettes is Indian Rupee (Rs) 669 per 1,000 pieces; in contrast, the excise tax on manufactured bidis is Rs 26 per 1,000 pieces and Rs 14 per 1,000 pieces for hand-rolled bidis.¹⁷ Consequently, a significant increase in taxes on other tobacco products would be needed to narrow the price gap between these products and cigarettes.

Electronic nicotine delivery systems (ENDS) are a very diverse product class without standardized products or contents, which presents challenges to developing ENDS tax policies. Several governments have begun to apply taxes to these products, and others are considering doing so. For example, as of

June 2016, four U.S. states and the District of Columbia levied taxes on ENDS,¹⁸ but few countries levied ENDS taxes (e.g., Togo, the Republic of Korea, and Portugal).^{19,20}

Considering the Appropriate Type of Excise on Tobacco Products

Whether to implement specific or *ad valorem* excise taxes is a long-standing question in tobacco tax policy, and the level and structure of excises have different implications for different stakeholders. Given the market structure of the tobacco industry—typically a monopoly or oligopoly for most products in most countries—excise taxes may have differing effects on government revenues, manufacturer profits, consumer prices, product variety, and tax administration.^{6,21–29} Specific and *ad valorem* excise taxes increase the level of consumer prices and affect the price gaps between higher and lower priced brands differently. To the extent that the two types of excise taxes affect consumer prices and product differentiation, they may affect consumption and have different implications for public health.

Excise taxes give governments the ability to influence demand by increasing prices as well as by affecting the appeal and variety of available products, while at the same time raising revenue and improving public health. The key challenges for policymakers are to determine which type of excise to levy and what rate to use, and to find the appropriate balance between specific and *ad valorem* taxation so that public health and revenue objectives are achieved. Using the two together in a mixed system reveals the advantages and disadvantages of both, as well as the complexities associated with their administration. The main differences between the types of excises, individually and as a mixed system, are summarized in Table 5.4.

Table 5.4 Comparison of Uniform Specific and *Ad Valorem* Excise Regimes

Factor	Specific excise	<i>Ad valorem</i> excise	<i>Ad valorem</i> with specific floor	Mixed system	Mixed specific and <i>ad valorem</i> excise with a minimum specific tax floor
Tax base	Unit of the product (e.g., 1,000 cigarettes)	Value of the product (e.g., retail, wholesale, or manufacturer's price)	Calculated on an <i>ad valorem</i> basis. If the calculated tax falls below a specified minimum floor, a specific tax rate applies	Unit and value of product	Both unit and value unless the tax falls below a specified minimum, in which case the tax base is only the unit
Administrative requirements*	Administration cost is low (only the volume of the products is ascertained)	Requires strong tax administration with technical capacity	Requires strong tax administration with technical capacity	Requires strong tax administration with technical capacity (requires assessing and collecting both <i>ad valorem</i> and specific excises)	Requires strong tax administration with technical capacity (requires assessing and collecting both <i>ad valorem</i> and specific excises, and monitoring minimum floor compliance)

Table 5.4 continued

Factor	Specific excise	<i>Ad valorem</i> excise	<i>Ad valorem</i> with specific floor	Mixed system	Mixed specific and <i>ad valorem</i> excise with a minimum specific tax floor
Undervaluation	Not applicable	Susceptible to undervaluation (but can be overcome by establishing a minimum retail sale price)	Provides an easy tool to prevent undervaluation of low-priced brands subject to the specific floor	The <i>ad valorem</i> part of the excise collection may be susceptible to undervaluation, depending on the choice of tax base	The specific tax floor prevents possible <i>ad valorem</i> tax base undervaluation of low-priced brands
Impact on product "quality"	Upgrading effect tends to reduce the relative tax on higher priced brands	Multiplier effect provides a disincentive to costly "quality" improvement	No incentive to upgrade to higher priced brands	No incentive to upgrade to higher priced brands	Eliminates incentive to upgrade to higher priced brands, but provides such an incentive for lower priced brands
Impact on price	Tends to lead to relatively higher prices, particularly for low-priced cigarettes	Tends to lead to relatively lower prices; price reductions will be "subsidized" if the multiplier effect is strong	Tends to lead to relatively higher prices, particularly for low-priced cigarettes	An increase in the specific tax will increase the <i>ad valorem</i> payment as well	An increase in the specific tax will increase the <i>ad valorem</i> tax amount as well. Increases in the <i>ad valorem</i> and/or specific tax will raise the minimum tax paid, if floor is a percentage of total tax on, e.g., WAP. It will reduce price gaps given impact on "quality."
Inflation	The real value of the excise will be eroded unless adjusted for inflation	The real value of the excise will be preserved as prices increase, at least, to the extent that tobacco product prices follow inflation	The real value of the specific floor will be eroded over time unless adjusted for inflation	The real value of the specific excise will be eroded unless adjusted for inflation	The real value of the specific excise tax and floor will be eroded unless adjusted for inflation
Health benefits	Discourages consumption of tobacco products irrespective of the price	Encourages more trading down in favor of less expensive cigarettes, reducing health benefit	Specific floor reduces incentives for trading down	May reduce trading down	Reduces trading down

*The tax should be collected at the point of manufacturing and at the time of importation.

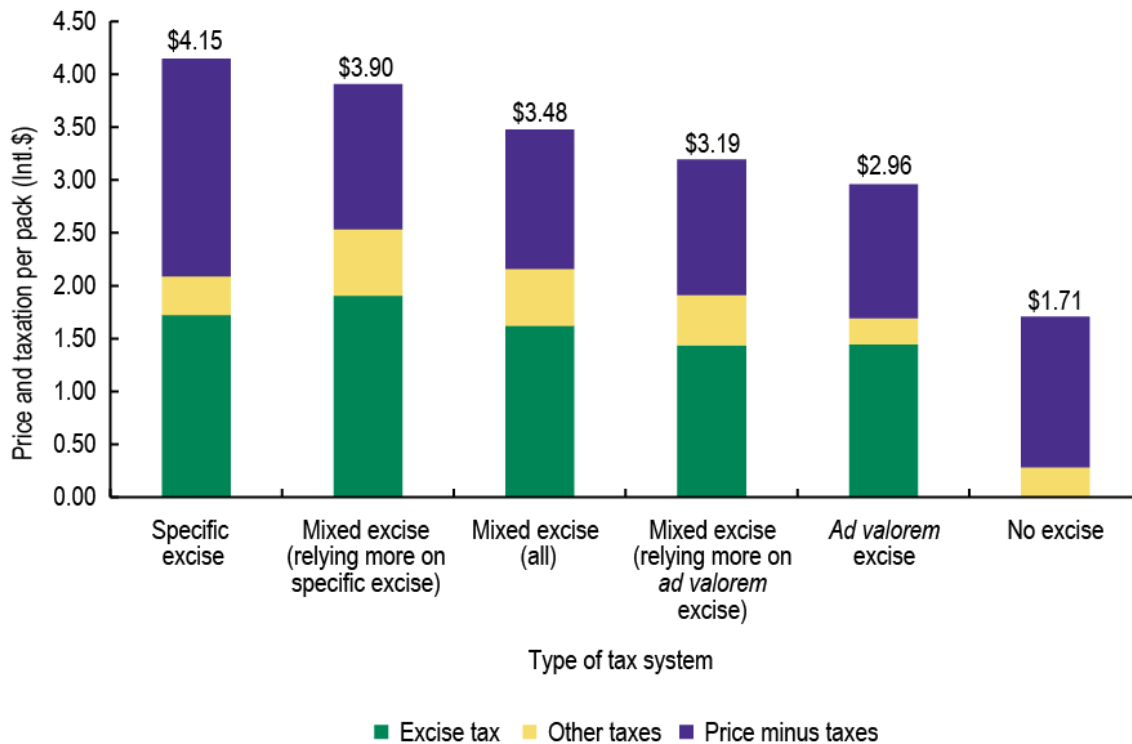
Note: "Trading down" = switching from high- to low-priced brands.

Source: World Health Organization 2010.⁶

Excise Taxes and Retail Prices

Specific and *ad valorem* taxes have differential effects on the retail prices of cigarettes. Systems that rely more on specific excises tend to result in higher prices than systems that rely more on *ad valorem* taxes. Furthermore, tax increases result in larger price increases when excise tax systems rely more on specific taxes than *ad valorem* taxes. As shown in Figure 5.3, cigarette excise taxes and prices are higher in countries that apply a specific excise system or a mixed system that relies more heavily on the specific component. Tax and price levels are lower for mixed systems that rely more on *ad valorem* excises, and lower still for those with a purely *ad valorem* system. Where countries apply a mixed tax structure, taxes and prices are higher in countries where specific taxes are a larger proportion of the price than the *ad valorem* proportion; taxes and prices are lower in countries where the *ad valorem* component dominates.

Figure 5.3 Price per Pack in International Dollar Purchasing Power Parity (PPP) and the Share of Excise and Total Tax in Price, by Tax Structure, 2014



Note: Averages were weighted by number of current cigarette smokers in each country.
 Source: Based on data from World Health Organization 2015.⁹

Also, under a specific excise system, consumer prices often rise by more than the tax increase, an effect known as tax overshifting. Empirical evidence indicates that the degree of overshifting depends on industry characteristics. Empirical evidence from the United States suggests that increases in specific cigarette taxes are overshifted to retail prices, with differences by brand and purchase type (i.e., carton vs. single pack), although substitution to cheaper brands by some smokers leads to a smaller impact on the average price paid by consumers.^{30–33}

Under specific taxation, any increase in the net-of-tax price will go to the manufacturer, distributors, or retailers as revenue and thus would increase the incentives in the supply chain to increase net-of-tax prices, given the price-inelastic demand. This is not the case under *ad valorem* taxation, where part of an increase in price accrues to the government as tax revenue (e.g., as a multiplier effect). For example, when retail prices increase in response to a tax increase of \$1, the retail price will increase by \$1 under specific taxation if the increase is fully passed on to the consumer. However, with a tax-inclusive *ad valorem* excise of 20%, for example, the price needs to increase by \$1.25 (the price will have to increase by $1/(1-0.20)$ to cover a \$1 cost increase). Consequently, the *ad valorem* tax generates a price increase higher than the increased cost, and the government receives a part of the price increase. An *ad valorem* tax subsidizes an industry price reduction, with the retail price falling by more than the reduction in industry price, adversely impacting government tax revenues.

To the extent that such cost increases reflect improvements in the quality of a product, specific taxes create greater incentives for manufacturers to raise quality compared with *ad valorem* taxes. In the case of cigarettes, improvements in quality do not refer to the health impact of the product; rather, they reflect features such as packaging, flavoring, or other product design features which may increase the appeal to consumers.

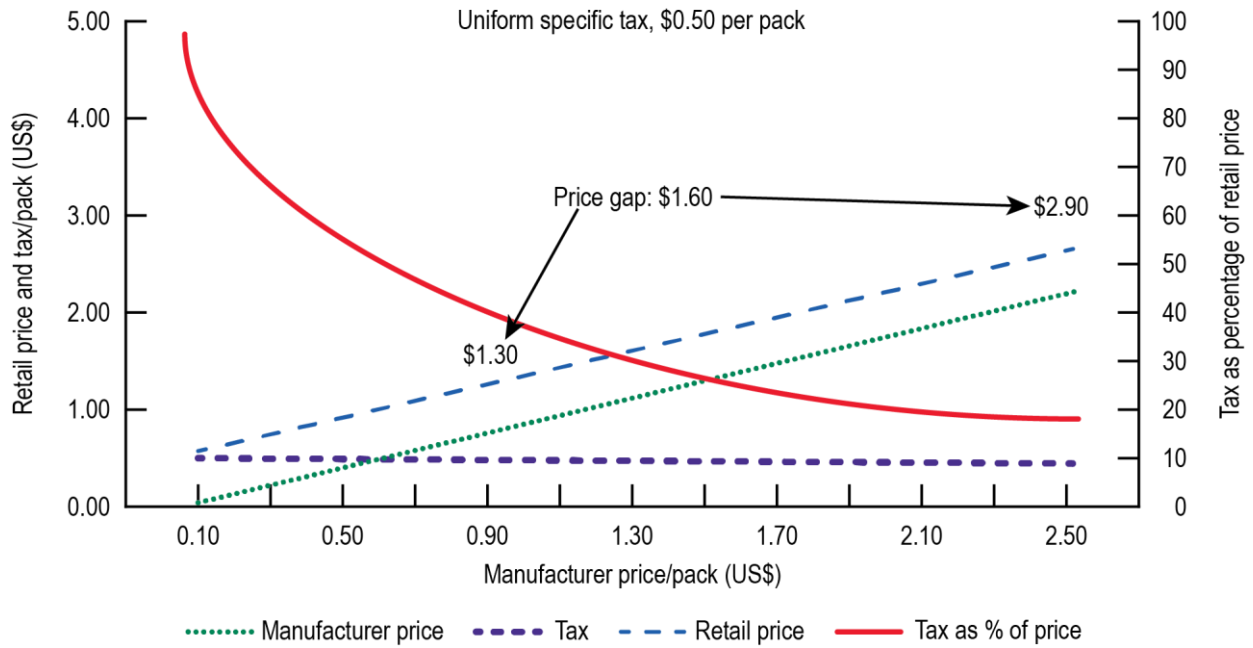
Excise Taxes and the Price Gap on Cigarettes

Given public health and revenue objectives, price gaps between different tobacco brands and different tobacco products limit the effect of tobacco tax increases on tobacco consumption and government revenues because these differentials create opportunities for consumers to substitute lower priced brands or products in response to tax increases. When facing tax or price increases, some smokers will quit smoking, others will reduce consumption (i.e., smoke fewer cigarettes), and others will trade down—that is, move from a higher priced brand to a lower priced brand. Although price increases that result from increased taxes reduce overall cigarette consumption, the degree to which consumption decreases depends, in part, on whether opportunities to trade down exist.⁶

An increase in a uniform specific tax reduces the ratio of prices of higher priced brands *relative* to lower priced brands (i.e., the tax as a percentage of price is lower for higher priced brands than for lower priced brands). Such a change in relative prices reduces smokers' incentives to substitute downward from higher to lower priced cigarette brands. In contrast, an increase in a uniform *ad valorem* tax (based on the retail price) does not change the relative prices of higher and lower priced brands.

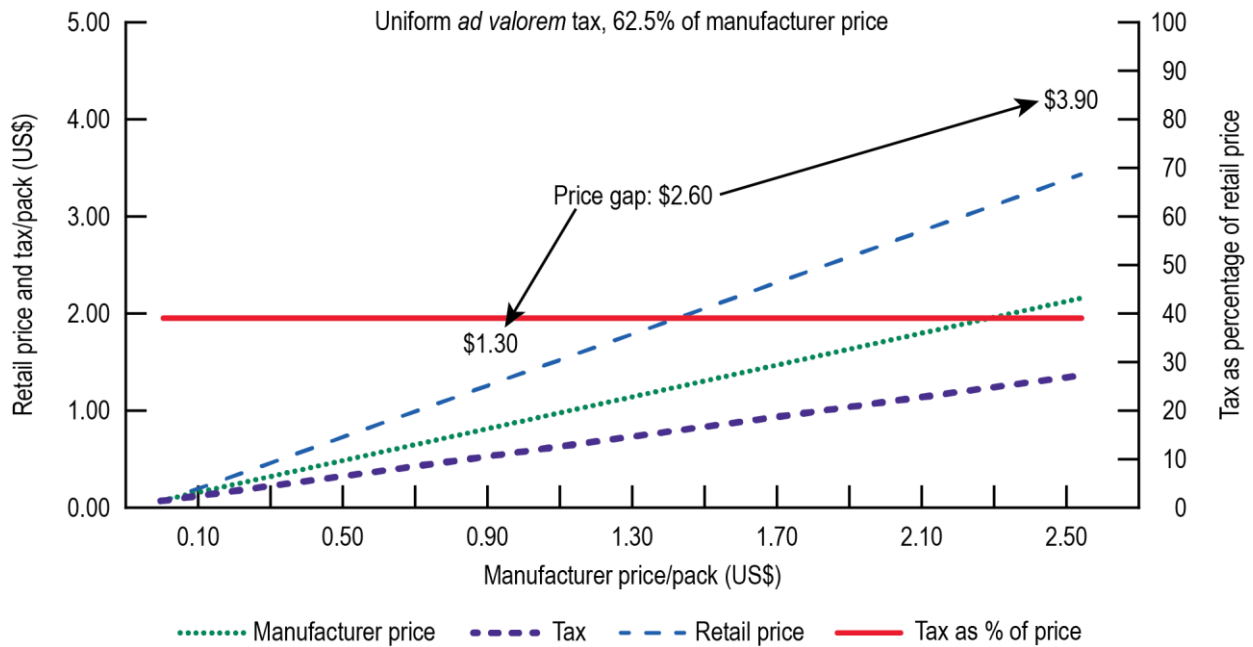
Figure 5.4 shows how levying a uniform specific tax of US\$ 0.50 per pack affects low- and high-priced brands (assuming manufacturer prices of US\$ 0.80 and US\$ 2.40, respectively). Figure 5.5 shows that an *ad valorem* tax that results in the same price for a low-priced brand raises the price of a high-priced brand considerably, creating a larger gap in prices between brands and increasing the incentive for consumers to trade down from high- to low-priced brands in response to a tax increase.

Figure 5.4 Uniform Specific Tax and Price Gap Between Cigarettes



Source: World Health Organization 2010.⁶

Figure 5.5 Uniform Ad Valorem Tax and Price Gap Between Cigarettes



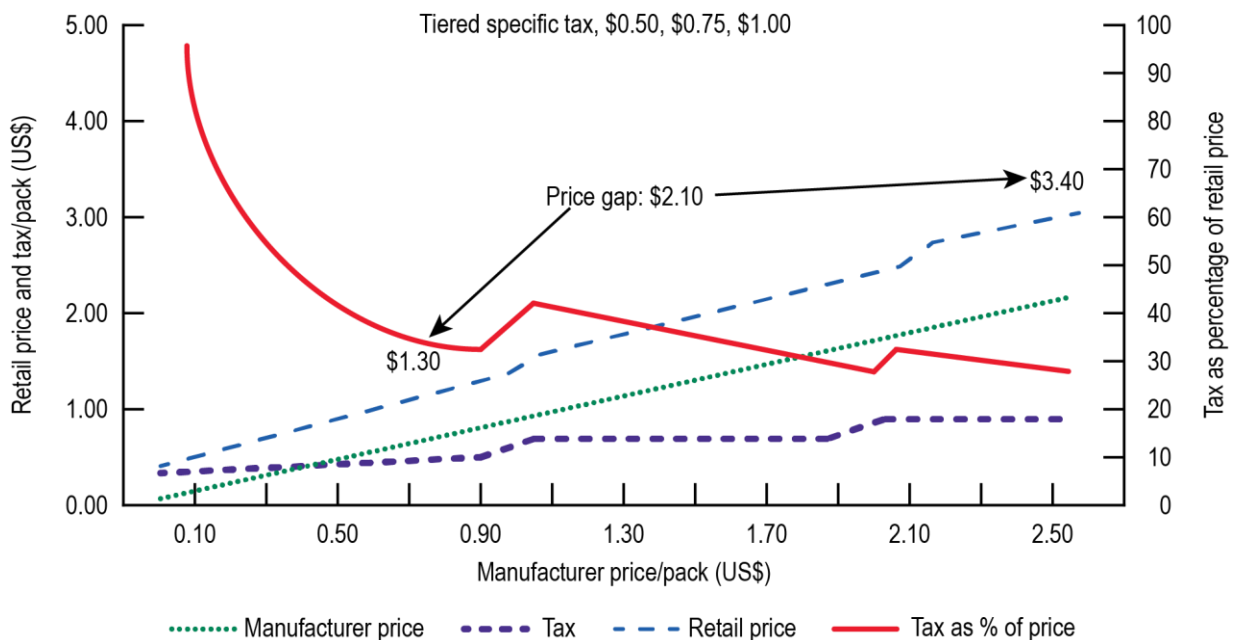
Source: World Health Organization 2010.⁶

The previous examples suggest that there would be less trading down (downward substitution) under a specific excise system than under an *ad valorem* excise system. In particular, more price-sensitive consumers, such as youth and the poor, will have less incentive to substitute downward as specific excise taxes increase. Furthermore, increases in specific excise taxes may encourage consumers to substitute higher priced products for lower priced products as the price gap between these narrows; price increases due to higher taxation may increase consumers' marginal willingness to pay for more appealing, higher priced brands. This is positive from a public health perspective because it is important to maintain or increase the cost of cigarettes to consumers. The hypothesis that the market share of low-priced cigarettes falls when specific excises increase, because the gap between high- and low-priced cigarettes is reduced, is supported by empirical evidence. Sobel and Garrett³⁴ found that increases in specific taxes significantly reduce the market share of generic (low-priced) brands in the United States.

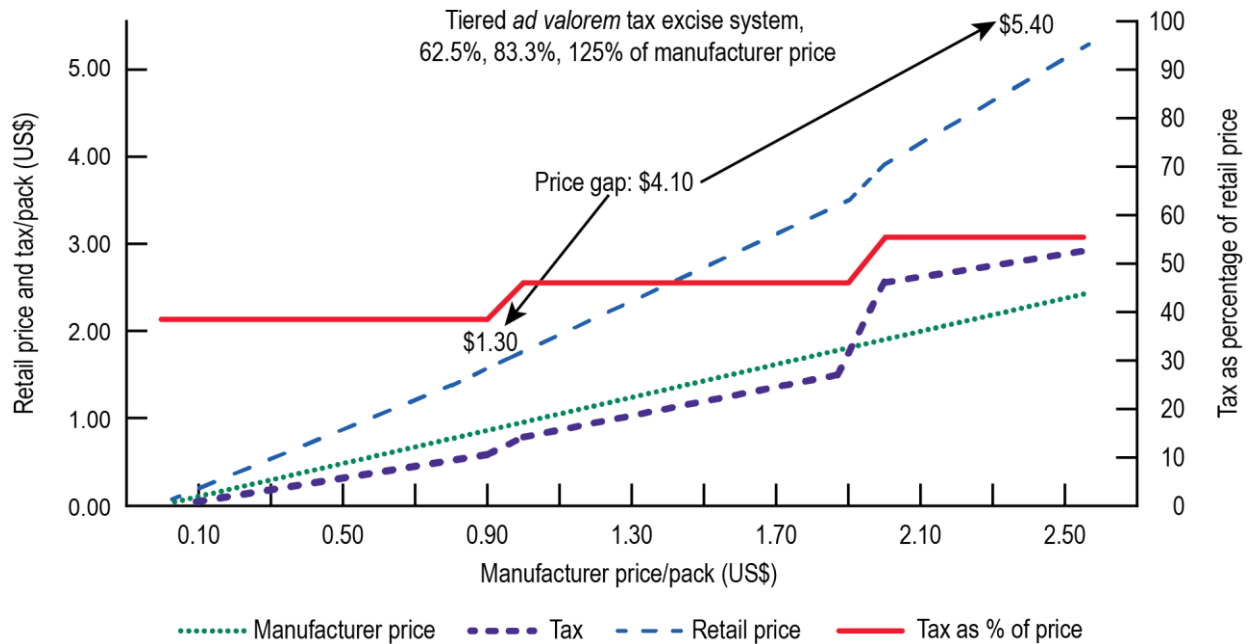
A number of countries, including some large cigarette-producing and -consuming countries, levy different tax rates on different brands and products. Under this tiered system, a lower rate is applied to lower priced cigarette brands and other tobacco products, and a higher rate is applied to higher priced cigarette brands and other tobacco products. (Tiers need not be based on product prices; the same principles apply when tiers are based on product or other characteristics.) Tiered systems can be applied to both specific and *ad valorem* systems.

Figure 5.6 illustrates the gap in price between different tobacco products when a tiered specific excise tax is in place. Figure 5.7 depicts the gap in price between different tobacco products when a tiered *ad valorem* excise tax is in place. With both specific and *ad valorem* taxes, as the tax rate increases, so does the retail price of the tobacco products. Following manufacturer price increases there is a large gap between the retail price of expensive and inexpensive tobacco products—that is, the expensive products become more expensive and inexpensive products remain lower priced—but this gap is greater with *ad valorem* taxes than with specific taxes.

Figure 5.6 Price Gap in a Tiered Specific Excise System



Source: World Health Organization 2010.⁶

Figure 5.7 Price Gap in a Tiered *Ad Valorem* Excise System


Source: World Health Organization 2010.⁶

A greater reliance on specific excise taxes rather than *ad valorem* taxes will have a greater effect on public health, narrowing the price gap between higher and lower priced brands and thus reducing incentives for consumers to trade down. Furthermore, the greater the number of tiers, under either specific or *ad valorem* systems, the stronger the incentives will be for consumers to trade down.

Effects of Excise Taxes on Product Differentiation

Specific and *ad valorem* excise taxes have different effects on product differentiation. Product differentiation can be vertical or horizontal. Horizontal differentiation refers to discrimination between products according to characteristics that cannot be objectively ordered; rather, the characteristics are subjective, the result of the consumer's personal preference (e.g., taste). Vertical differentiation occurs when products are ordered from highest to lowest according to their objective quality, so that one product can be said to be objectively better than another. As a general rule, better products have higher prices because of higher production costs and greater expected advantages for consumers. Economists consider higher priced brands better products; as noted previously, in the case of tobacco products, "better" means more appealing to consumers; it does not mean less damaging to health.

Cigarette manufacturers differentiate their products because differentiation provides them with additional market power. Manufacturers' ability to pass taxes on to consumers depends on market power. The structure of the excise tax system, whether it is specific or *ad valorem*, affects the variety, quality, and prices of products available.^{22–26,35,36} Similarly, the tax structure affects the number of brands produced. Specific taxation tends to lead to greater product variety by giving the tobacco industry an incentive (the ability to charge a higher price) to invest in different product characteristics.

Excise Taxes and Tax Revenues

Historically, efficient revenue generation has been the primary aim of all excise taxes, and tobacco is no different. This is the case because most excisable goods are considered luxuries and have relative price-inelastic demand, meaning that higher taxes result in higher revenues and that revenues are predictable and do not vary much over time for a constant tax rate and structure. High taxes on tobacco products ensure high revenues because of the price-inelastic demand and the low share of taxes in retail prices of tobacco products in most countries. In addition to generating revenue, governments may also aim to sustain these revenues over time. In a noncompetitive environment (a market controlled or supplied by a small number of manufacturers), which is the case for tobacco, specific and *ad valorem* taxes of equal amounts have different effects on government revenue both in terms of revenue levels and revenue stability.

A tax system that is independent of the tobacco industry's pricing strategy increases the stability of tax revenue. The *ad valorem* excise tax revenue per pack depends on the industry's pricing strategy, independent of the base. In contrast, specific excise tax revenues per pack are relatively independent of changes in industry price. Thus, a strong case can be made for favoring specific excise taxes to generate a more stable stream of revenue for governments. Even under *ad valorem* systems there are steps that governments can take, without violating competitive market rules, to increase the stability of tax revenues and limit the ability of industry pricing strategies to undermine revenue stability; one such step is to set a minimum base (i.e., ex-factory price or retail price) on which the tax liability is assessed.

To illustrate these effects of increased cigarette taxes, a 2016 study modeled the impact of raising cigarette taxes on government tax revenues and on public health. Using data for 181 countries, Goodchild and colleagues³⁷ estimated that raising the tax by one international dollar per pack of 20 cigarettes would increase average cigarette prices by 42%, reduce smoking prevalence by 9%, and prevent 15 million smoking-attributable deaths among adults alive in 2014. At the same time, they estimated that tax revenues would increase by 190 billion international dollars, a 47% increase in revenues.³⁷

Tobacco Product Tax Administration

Even well-designed tobacco excise taxes cannot be successful in achieving health and revenue objectives without strong tax administration. It is typically less complex and less costly to administer tobacco taxes and collect tobacco tax revenue than to administer and collect other taxes. This efficiency is partly because excises are often collected from manufacturers and importers and collection requires follow-up with a small number of taxpayers. Nevertheless, as discussed below and in greater detail in the *WHO Technical Manual on Tobacco Tax Administration*,⁶ tobacco tax administration involves many challenges.

Technical Capacity of Tax Administrators

The technical capacity of tobacco tax administration ensures effectiveness and efficiency by achieving a high level of tax compliance at the lowest possible administrative cost per unit of tax revenue raised. An effective administrative agency has the technical capacity to (1) identify and evaluate the effects of both current tax policies and tax policies under consideration, (2) implement as simple a tax system as appropriate given the economic and political spectrum, (3) keep up with any changes in the law and with emerging tax avoidance and evasion practices, and (4) maintain a connection between the rule of law

and tax administration.⁶ A tax administration with strong technical capacity is able to design the excise tax system and determine the tax levels to achieve its objectives effectively and efficiently.

Identifying and Evaluating Tax Policies

Effective tax administrators will be aware of and able to analyze current and alternative excise systems with respect to their effect on revenues, production type, product appeal, and prices. They will also be aware of tobacco manufacturers' ability to alter production levels in anticipation of or in response to changes in the tax system. Effective tax administrators will have full information on major tobacco manufacturers in the market—their production capacities, the types and variety of products they produce, quantities of products by price, share of price brands (premium-, high-, and low-priced products) in the market, quantity and value of production for domestic consumption and exports, and retail prices of products. Understanding the many economic factors that affect consumer purchasing behavior, particularly the impact of price and income on demand for tobacco products, is also useful to tax administrators.

Industry Pricing Strategies and Production Behavior

Close monitoring of manufacturers' production and pricing strategies is important to effective tax administration, given that these activities affect government revenue and may influence the effect of tobacco control policies. For example, when cigarette manufacturers expect major new tobacco control interventions, such as the introduction of pictorial health warnings and/or higher taxes, they may overproduce cigarettes before those measures become effective—a practice known as stockpiling or frontloading. In 2012 in the Philippines, the tobacco industry closely followed the development of legislation raising the tax on tobacco products; in anticipation of the new law taking effect, the industry frontloaded a substantial amount of cigarettes to the market.³⁸ As a consequence of such tactics, governments may receive lower revenues than expected in the short term. Stockpiling in anticipation of a tax increase or policy change can be discouraged by applying new taxes to existing stocks.³⁸

Reducing the Complexity of the Tax System

A well-designed excise tax system is simple, transparent, easily defined, and efficient. It minimizes administrative costs and increases the efficiency of the taxing authority. Simplifying the structure of tobacco excise taxes facilitates tax administration, reduces tax avoidance and evasion, enhances revenues, and has a greater effect on tobacco use by reducing incentives to substitute different tobacco products or brands in response to tax increases.

Conversely, complex tax structures are difficult to administer, create opportunities for tax avoidance and evasion and, as a result, are less effective than simpler tax structures in achieving public health and revenue goals. The complex tobacco tax structures in many countries are often the result of political considerations, such as ensuring the availability of inexpensive tobacco products for the poor, protecting domestic manufacturers, maintaining employment in tobacco production, and maintaining revenue from tobacco taxes. Countries with complex tax structures can reduce the variations in taxes over time, with the eventual aim of implementing a single, uniform tax on a given tobacco product and extending the same uniform tax to other tobacco products.

Effects of Inflation on Excise Taxes

Inflation erodes the value of a specific tax, leading to lower inflation-adjusted tax revenues and less potential for reducing tobacco consumption and prevalence. Of several approaches that can be used to deal with this issue, the most straightforward is to incorporate an automatic adjustment for inflation. The main technical issue with this approach is the frequency of adjustment. When the inflation rate is low, annual adjustment is adequate; a high inflation rate requires more frequent adjustment. Authority may be granted to the tax administration to make appropriate periodic changes in the specific tax to maintain or increase its inflation-adjusted value. Examples of countries that index specific taxes to inflation include Costa Rica and Turkey, which index a specific tax to inflation monthly, and Australia, which indexes the tax to nominal wages twice a year (although nominal wages are not a proxy for inflation but are a proxy for affordability, which replaced the consumer price index as the benchmark).⁹ When currency volatility is an issue, the excise amount may be expressed in a hard currency, such as the U.S. dollar or the euro. Many low-income countries with weak tax administration prefer *ad valorem* tobacco taxes because these taxes keep up with inflation. However, the same weak tax administration is likely to result because of the challenges of undervaluation which are experienced with *ad valorem* taxes.

Tax Policy Compliance and Monitoring

Monitoring the tobacco products market increases the strength of tax administration by improving administrators' technical capacity to analyze and evaluate tax policies and enabling them to reduce complexities in the tax system. Monitoring the tobacco products market also enables administrators to limit both tax evasion and tax avoidance, thereby ensuring full tax compliance and the maintenance of expected revenues despite changes in tax systems and rates.

Tax administrators in many countries may implement compliance measures as part of their tax laws, including:

- Requiring registration and licensing for production, distribution, and retail sales
- Monitoring domestic production and trade activities, either by exerting physical control, requiring tax stamps, or requiring monitoring devices on production premises
- Requiring manufacturers and importers to file tax returns and pay the tax liability within a specific period of time after the tobacco products leave the factory or before the products enter the country.

Tax avoidance and evasion cost governments revenue, harm public health, and pose significant challenges for tobacco control. Minimizing tax avoidance/evasion and verifying compliance require enforcement actions by tax administrators, which may include periodically auditing taxpayers' account books, imposing physical control over the production/manufacturing process, requiring tracking and tracing systems for tobacco products, and applying state-of-the-art technology (monitoring scanners) at production facilities. This topic is discussed at greater length in chapter 14.

Tax Avoidance

As discussed in chapter 14, tax avoidance is defined as legal methods of circumventing tobacco taxes. Depending on a country's enforcement mechanisms and penalty procedures, a change in the structure or an increase in the rate of tobacco excises may give manufacturers and consumers an incentive to engage in tax avoidance.

Tax avoidance by consumers involves legal activities such as purchases for personal consumption within a limit determined by law from a lower tax jurisdiction or from duty-free shops.

Tax avoidance by manufacturers also involves legal activities and is more likely to occur under complex tax systems or structures. Depending on the tax base, manufacturers can reduce their tax liability by changing the characteristics of the product, its packaging, the amount produced, the production plan, and/or the price charged, in order to move brands into lower tax tiers (see Table 5.3). Even the most sophisticated tax administrations are likely to encounter tax avoidance. For example, under specific taxation, if the tax is based on the length of the cigarette, the manufacturer can change the length to reduce the effective tax payment. The same can occur when tiers are based on price, type, or size of package. Under *ad valorem* taxation, tobacco manufacturers could sell their products to a related marketing company at an artificially low price to reduce the excise tax liability (referred to as transfer pricing). This is particularly prevalent when cigarettes are imported, because tax administrators have limited ability to audit the declared prices of cost, insurance, and freight.

In some low- and middle-income countries where multi-tiered tax systems are in place, industry responses have varied. Indonesia, for example, has an extremely complex tobacco tax system, with tax rates varying by type of product, mode of production, and scale of production. Because the tax rate favored small-scale production, tobacco companies reduced their tax burden by dividing production among a large number of small-scale manufacturers. In response, Indonesia changed its law so that subsidiaries of large companies are no longer allowed to file their taxes independently from the parent company.³⁸

In general, systems that tax tobacco products differently as a function of vertical or horizontal differentiation provide opportunities for tax avoidance. Closing loopholes in the tax law can help reduce or eliminate tax avoidance, achieve higher revenues, and produce a greater health benefit. However, as governments amend legislation to close loopholes, manufacturers look for new loopholes in the amended rules. Loopholes are likely to be more plentiful when the tax structure is overly complex, as is the case in many low- and middle-income countries.

Political Considerations

The decision to increase tobacco taxes requires considering the impact of higher taxes on various factors, such as tax avoidance/evasion, employment, inflation, and the affordability of tobacco products, especially for low-income smokers. The effects of excise taxes on inflation as well as the earmarking of tobacco tax revenues for tobacco control, health promotion, or other activities are discussed below. The effects of tobacco taxes on affordability are discussed in chapter 4; on tax avoidance/evasion, in chapter 14; on employment, in chapter 15; and on the poor, in chapter 16.

Effect of Excise Taxes on Inflation

Governments may be concerned about the possible effect of higher taxes on the inflation rate. The extent to which tobacco product tax increases lead to increases in inflation depends on several factors, most notably the share of these taxes in prices and the weight tobacco prices are given in computing a consumer price index. An increase in tobacco taxes will contribute more to inflation when taxes account for a greater proportion of the tobacco product price. Similarly, as tobacco products are given more weight in computing a price index, a tax increase will have a greater inflationary effect. For most countries, the inflationary effect of tobacco product tax increases will be relatively small.

Table 5.5 shows inflationary impacts of different combinations of tax levels as a percentage of price and tobacco weights in the price index.

Table 5.5 Inflationary Impact of Tobacco Tax Increases

Tax as a share of price			Tobacco weight in price index			Inflationary impact		
Low (<40%)	Medium (40–70%)	High (>70%)	Low (<2%)	Medium (2–4%)	High (4–8%)	Low (<1.0%)	Medium (1–2.5%)	High (>2.5%)
X			X			X		
	X		X			X		
		X	X			X		
X				X		X		
	X			X			X	
		X		X			X	
X					X		X	
	X				X		X	
		X			X			X

Note: Midpoints of ranges for tax and tobacco weight are used for computing inflationary effect.
Source: World Health Organization 2010.⁶

The consumer price index is an important economic indicator for most countries and is often a key determinant of monetary policy. In many countries, changes in wages, social security benefits, and other payments are tied to inflation, as measured by a price index. Price indexes provide more accurate comparisons of changes in expenditures, incomes, and prices for specific goods over time; they also allow comparisons across countries.

Because of the many uses of consumer price indexes and the potential inflationary effect of tobacco tax increases, some governments exclude tobacco products (and sometimes other goods) from the consumer price indexes for some uses. For example, since 1992, France has excluded tobacco products from its price index used for adjusting minimum wages.³⁹ Similarly, Luxembourg (since 1991) and Belgium (since 1994) have excluded tobacco products and alcohol from their consumer price indexes. In 2010, New Zealand removed tobacco product prices from its indexing formula for social assistance payments.³⁹

Earmarking

Earmarking refers to the dedication of revenue from a specific tax source to a particular expenditure. Earmarks can be classified according to (1) the nature of the link between the tax and the expenditure it finances, and (2) the type of expenditure that benefits from the revenue. The link can be *strong/tight*, meaning that all or most of the tax revenue goes toward financing a particular expenditure and that this expenditure does not benefit significantly from other sources (e.g., a general fund); or *weak/loose*, meaning that only a portion of the tax revenue goes toward financing a particular expenditure, and/or the expenditure benefits significantly from other financing sources. The type of expenditure that benefits

from earmarking can be *specific/narrow* (e.g., a tobacco control program) or *broad/wide* (e.g., social security or education programs).

One key argument of modern public finance theory advises that government tax and spending policies should be undertaken independently of one another. Proponents of this theory believe that earmarking introduces various rigidities in the budgetary process that can limit the optimal allocation of resources and cause social harms. Indeed, governments rely mainly on general funds for financing public goods and services. Earmarking is used in many instances at the central and subcentral levels of government, but almost always with financing from the general funds. Common examples of earmarking include road building and maintenance (financed by taxes on fuel products), social security (financed by payroll taxes), primary education (financed by local property taxes), and health promotion and health-related activities (financed by tobacco taxes).

Earmarking in modern public finance finds its strongest support in the principle of benefit taxation and user fees, which states that public goods and services should be priced at their marginal cost and should be provided to those individuals who pay for them. In other words, there should be a *tight* link between the tax (user fee) and the service provided. Without this link, earmarking in the presence of general fund financing is likely to be motivated by narrowly defined interests and could impair the welfare of society. Bird⁴⁰ and Wilkinson⁴¹ argued that if taxpayers vote on a series of public goods and services, each financed by a corresponding tax, the outcome of their choice is likely to reflect their preferences better than voting on a package of expenditures financed from a general fund.

A number of arguments have been put forward to explain why certain types of earmarking may be desirable or justified. For example, Buchanan⁴² justified the desirability of earmarking by assuming that the decision-maker in the tax-spending process is the median taxpayer and not a benevolent government. A study by Pirttilä⁴³ described the earmarking of tax revenue from a corrective environmental tax to compensate those most negatively affected by the tax, arguing that the earmarking was desirable because it could alleviate compensation problems and facilitate more efficient environmental policy. Marsiliani and Renstrom⁴⁴ argued that in the presence of time inconsistency, earmarking can act as a commitment mechanism; that is, future politicians can be prevented from either eliminating or reducing the tax. Similarly, according to Brett and Keen,⁴⁵ earmarking can be seen as a means by which a weak incumbent politician can lock in the use of revenues from certain Pigovian taxes and thus prevent any future change. Dhillon and Perroni⁴⁶ saw earmarking as a means to improve the monitoring of government spending by private individuals.

For the benefit principle to apply, taxes would be paid by those who benefit from tobacco-related health services—a condition that is impossible to satisfy completely both because not all tobacco users suffer from diseases caused by tobacco, and because tobacco tax revenue may not be enough to finance spending needs. As of 2014, 30 countries reported earmarking tobacco taxes or tobacco tax revenues for a specific health purpose.⁹ Relatively few countries earmark tobacco tax revenues for tobacco control efforts; those that do tend to allocate only a small percentage to these efforts.⁴⁷

In 1987, the State of Victoria, Australia, passed the Victorian Tobacco Act, which established the Victorian Health Promotion Foundation (VicHealth), funded by tobacco taxes. This foundation, the world's first health promotion entity to be funded by a tax on tobacco products, focuses on diverse health promotion activities, including reducing tobacco use, and has served as a model for many other countries.⁴⁸ In 2001, Thailand established the Thai Health Promotion Foundation (ThaiHealth), using a

2% surcharge levied on the tobacco and alcohol excise taxes. In 2008, approximately 23% of the tobacco revenue for ThaiHealth was allocated to tobacco control programs, including tobacco control campaigns, smoke-free projects, and other tobacco control projects and research.⁴⁹

In the United States, the state of California offers the longest-running and most successful example of earmarking of tobacco taxes. Proposition 99 (approved in 1988) increased the state's cigarette tax by 25 cents, and dedicated 20% of the new tobacco tax revenues to comprehensive tobacco control programming and an additional 5% to tobacco-related research.⁵⁰ Over time, the California Tobacco Control Program has substantially reduced smoking prevalence, cigarette consumption per smoker, and per capita health care expenditures.⁵¹ As of 2014, all U.S. states and the District of Columbia have tobacco control programs funded by various revenue streams, including tobacco excise taxes, tobacco industry settlement payments, state and federal revenue, and nonprofit organizations.⁵² States that have made larger investments in comprehensive tobacco control programs have been more successful at reducing adult and youth smoking prevalence and overall cigarette consumption than other states.^{53–55}

Summary

Tobacco products, particularly cigarettes, are subject to a number of taxes, including excise taxes, value-added taxes (VAT) or sales taxes, and import duties, with excise taxes accounting for the largest share of retail prices in most countries. Since excise taxes increase the prices of tobacco products relative to other goods and services, they are considered an important tobacco control tool. A majority of countries tax cigarettes, but the structure of excise taxes varies greatly across countries.

Higher taxes on tobacco products increase tax revenues and improve public health, but they are an underused intervention. Governments can promote public health and collect higher revenues in an efficient and effective way by selecting and imposing the appropriate types and rates of tobacco excise taxes. Compared to *ad valorem* taxation, specific taxation better achieves public health objectives because it increases retail prices and narrows price gaps, thus reducing consumers' incentives to change from higher priced to lower priced brands or to other (non-cigarette) tobacco products.

Tobacco products are often subject to differential tax treatment. Typically, higher taxes are levied on cigarettes and lower taxes are levied on other tobacco products. Increasing excise taxes on cigarettes but not on other tobacco products (or increasing excises on other tobacco products at a lower rate) will result in lower prices for those tobacco products relative to the price for cigarettes. Consequently, the overall reduction in tobacco use will be smaller than if taxes on cigarettes and other tobacco products are increased by comparable amounts. To reduce the already existing price gap, lessen the likelihood that consumers will switch to less expensive tobacco products, and maximize the public health impact, tax increases may need to be greater for other tobacco products than for cigarettes.

The various types of excise taxes each have their relative advantages and disadvantages. Although specific excise taxation improves public health and tax administration more than *ad valorem* excises, which type of tax should be relied on is less clear when revenue is the primary objective. Specific excises are better for predicting both the level and stability of revenues, especially when adjusted regularly to keep pace with inflation. Governments may prefer one type of tax over the other, or prefer a combination of both, depending on tobacco industry characteristics and political considerations.

A well-designed tax system is one that is simple and easy to administer in order to minimize tax avoidance and evasion, generate expected revenues, and result in tax increases being passed on to consumers as price increases. Simplicity in tax systems improves transparency and limits opportunities for tax avoidance and tax evasion. However, being well-designed is not enough to ensure that a tax system will have a positive impact on public health and revenues. To ensure high compliance levels, strong tax administration is needed to implement and administer tax policies efficiently. Compliance can be strengthened by adopting state-of-the-art monitoring and tracking and tracing systems combined with strong enforcement.

Research Needs

Much is known about the advantages and disadvantages of specific and *ad valorem* taxes with respect to their impact on consumption, prices, and government revenues. However, additional research on how the tobacco industry's pricing strategies are influenced by tax structure, tax increases, and market structure would be informative. Guidance for tax authorities on best practices in tax administration would also benefit from further research. As more new products, such as electronic nicotine delivery systems (ENDS), emerge, research will be needed to inform the optimal strategies for taxing these products.

Conclusions

1. Governments have a variety of reasons for taxing tobacco products, including generating revenue and improving public health by reducing tobacco use. Although price and tax measures are among the core demand reduction measures of the WHO FCTC, they are among the least implemented.
2. Almost all governments tax tobacco products, applying a variety of different taxes and using different tax structures. The different taxes and tax structures vary in their impact on public health. Relying on import duties to generate revenue is not an effective tax policy and does not substantially affect public health. More reliance on high, uniform, and specific excise taxes on tobacco products will have the greatest public health impact.
3. Because of the low share of tax in the retail prices of cigarettes and the relative inelasticity of demand for tobacco products, increases in tobacco taxes will ensure higher revenues.
4. A number of countries dedicate part of their tobacco tax revenues for health promotion and/or tobacco control. Dedicating part of tobacco tax revenues for comprehensive tobacco control or health promotion programs (i.e., earmarking) increases the public health impact of higher tobacco taxes.
5. An effective tax system is one that is well-designed and -administered. A well-designed system sets appropriate tax rates to achieve public health and revenue objectives; a well-administered system ensures high tax compliance and minimizes tax avoidance and evasion.

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Appendix 5A. Recommendations From Guidelines for the Implementation of Article 6 of the WHO FCTC

Category	Section	Recommendation
Relationship between tobacco taxes, price, and public health	Taxation and affordability (income elasticity)	When establishing or increasing their national levels of taxation, Parties should take into account—among other things—both price elasticity and income elasticity of demand, as well as inflation and changes in household income, to make tobacco products less affordable over time in order to reduce consumption and prevalence. Therefore, Parties should consider having regular adjustment processes or procedures for periodic revaluation of tobacco tax levels.
Tobacco taxation systems	Other taxes on tobacco products	Parties should implement the simplest and most efficient system that meets their public health and fiscal needs, taking into account their national circumstances. Parties should consider implementing specific or mixed excise systems with a minimum specific tax floor, as these systems have considerable advantages over purely <i>ad valorem</i> systems.
	Level of tax rates to apply	Parties should establish coherent long-term policies on their tobacco taxation structure and monitor on a regular basis, including targets for their tax rates, in order to achieve their public health and fiscal objectives within a certain period of time. Tax rates should be monitored, increased, or adjusted on a regular basis, potentially annually, taking into account inflation and income growth developments in order to reduce consumption of tobacco products.
	Comprehensiveness/similar tax burden for different tobacco products	All tobacco products should be taxed in a comparable way as appropriate, in particular where the risk of substitution exists. Parties should ensure that tax systems are designed in a way that minimizes the incentive for users to shift to cheaper products in the same product category or to cheaper tobacco product categories as a response to tax or retail price increases or other related market effects. In particular, the tax burden on all tobacco products should be regularly reviewed and, if necessary, increased and, where appropriate, be similar.

Appendix 5A continued

Category	Section	Recommendation
Tax administration	Authorization/licensing	Parties should ensure that transparent license or equivalent approval or control systems are in place.
	Warehouse system/movement of excisable goods and tax payments	<p>Parties are urged to adopt and implement measures and systems of storage and production warehouses to facilitate excise controls on tobacco products.</p> <p>In order to reduce the complexity of tax collection systems, excise taxes should be imposed at the point of manufacture, importation, or release for consumption from the storage or production warehouses.</p> <p>Tax payments should be required by law to be remitted at fixed intervals or on a fixed date each month and should ideally include reporting of production and/or sales volumes, and price by brands, taxes due and paid; payments may include volumes of raw material inputs.</p> <p>Tax authorities should also allow for the public disclosure of the information contained within the reports, through the available media, including those online, taking into account confidentiality rules in accordance with national law.</p>
	Anti-forestalling measures	In anticipation of tax increases Parties should consider imposing effective anti-forestalling measures.
	Fiscal markings	Where appropriate, Parties should consider requiring the application of fiscal markings to increase compliance with tax laws.
Use of revenues – financing of tobacco control	Enforcement	<p>Parties should clearly designate and grant appropriate powers to tax enforcement authorities.</p> <p>Parties should also provide for information sharing among enforcement agencies in accordance with national law.</p> <p>In order to deter non-compliance with tax laws, Parties should provide for an appropriate range of penalties.</p>
		Parties could consider, while bearing in mind Article 26.2 of the WHO FCTC, and in accordance with national law, dedicating revenue to tobacco control programs, such as those covering awareness raising, health promotion and disease prevention, cessation services, economically viable alternative activities, and financing of appropriate structures for tobacco control.
Tax-free/duty-free sales		Parties should consider prohibiting or restricting the sale to and/or importation by international travelers, of tax-free or duty-free tobacco products.

Note: WHO FCTC = World Health Organization Framework Convention on Tobacco Control.

Source: World Health Organization (no date).⁵⁶