

Relationship between tax and price and global evidence



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Introduction

- Taxes on tobacco products are often a significant component of the prices paid by consumers of these products, adding over and above the production and distribution costs and the profits made by those engaged in tobacco product manufacturing and distribution.
- The relationship between tax and price is complex. Even though tax increase is meant to raise the price of the product, it may not necessarily be fully passed into price increase due to interference by the industry driven by their profit motive. The industry is able to control the price to certain extent by maneuvering the producer price and also the trade margin through transfer pricing.
- This presentation is devoted to the structure of taxes on tobacco products, in particular of excise taxes.



Outline

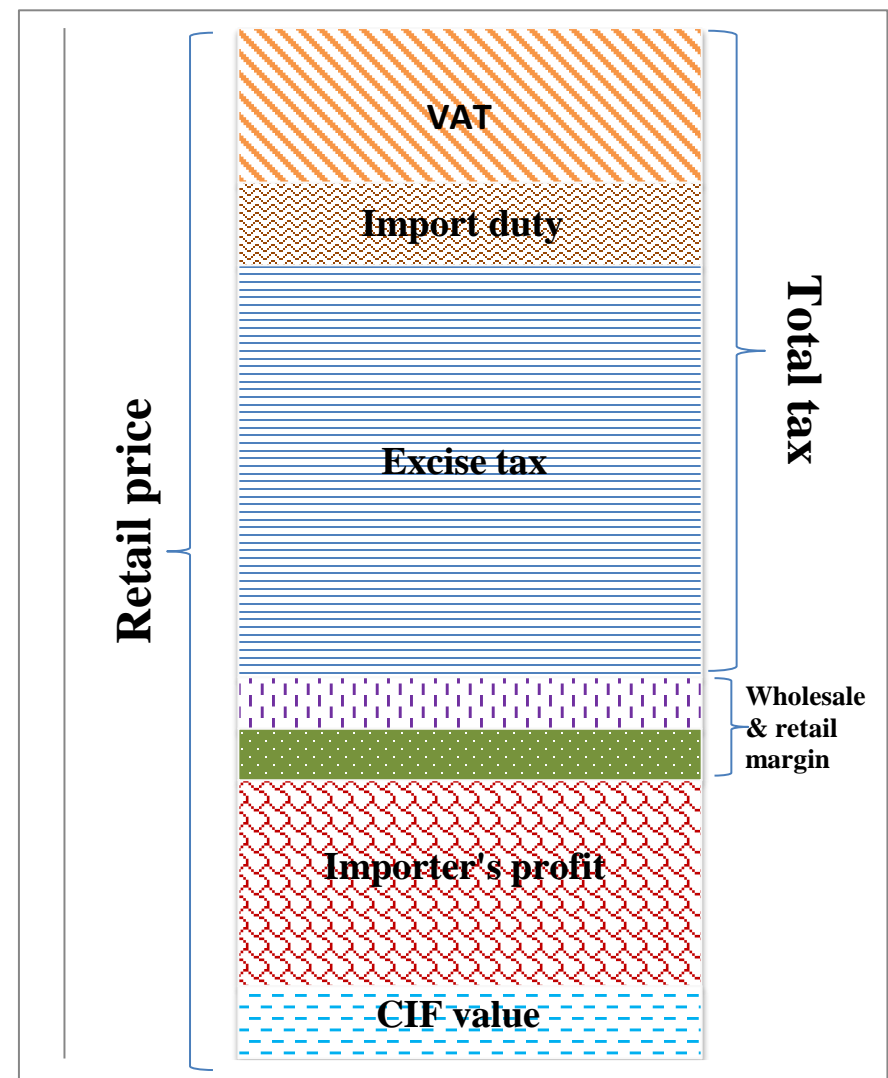
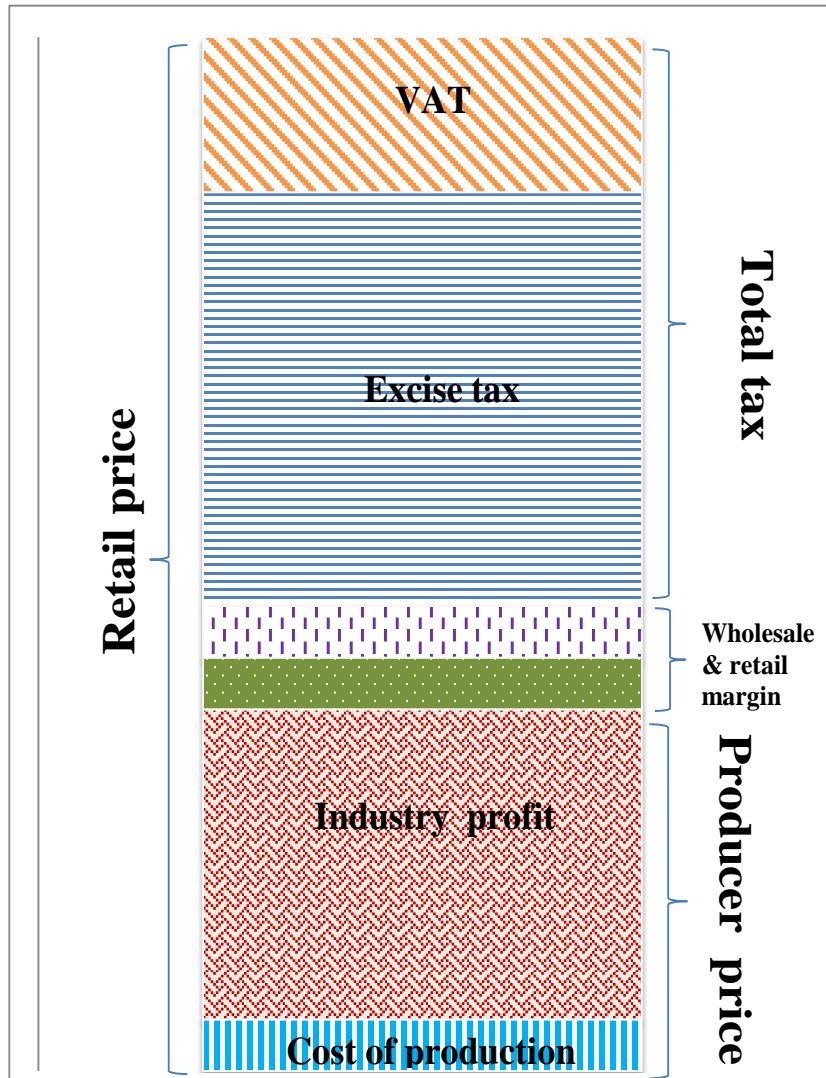
- Tax as a component of retail price
- Types of taxes—excise tax, import duty, VAT, other taxes
- Basic structures of tobacco excise taxes
- Types of tobacco excise systems
- Tax base under ad valorem excise tax system
- Comparison of ad valorem and specific excise regimes
- Uniform and tiered excise tax rates



Tax as a component of retail price

Domestic product

Imported product



Excise tax, import duty, VAT and other taxes as % of retail price of the most sold cigarettes brand, 2012

Total tax incidence	Number of countries	List of countries
0-10%	5	Afghanistan, Antigua and Barbuda, Iraq, Somalia
10-20%	18	Angola, Azerbaijan, Benin, Cambodia, Cameroon, Guinea-Bissau, Iran (Islamic Republic of), Liberia, Libyan Arab Jamahiriya, Mauritania, Paraguay, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sao Tome and Principe, Sierra Leone, Togo, Tuvalu
20-30%	24	Armenia, Bahrain, Belize, Burkina Faso, Cape Verde, Chad, Djibouti, Dominica, Ghana, Kazakhstan, Kuwait, Mali, Marshall Islands, Mozambique, Nicaragua, Nigeria, Oman, Philippines, Qatar, Saudi Arabia, Turkmenistan, United Arab Emirates, United Republic of Tanzania, Uzbekistan
30-40%	20	Bahamas, Comoros, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Gambia, Guinea, Guyana, Honduras, Malawi, Nepal, Niger, Papua New Guinea, Senegal, Solomon Islands, Tajikistan, Timor-Leste, Trinidad and Tobago, Zambia

Source: WHO Global Report of the Tobacco Epidemic, 2013, Database.



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Excise tax, import duty, VAT and other taxes as % of retail price of the most sold cigarette brand, 2012 (cont.)

Total tax incidence	Number of countries	List of countries
40-50%	26	Andorra, Barbados, Belarus, Bolivia, China, Colombia, Côte d'Ivoire, Fiji, Guatemala, India, Jamaica, Kenya, Kiribati, Lao People's Democratic Republic, Lebanon, Lesotho, Maldives, Mongolia, Namibia, Peru, Republic of Moldova, Russian Federation, South Africa, Uganda, United States of America, Viet Nam
50-60%	20	Algeria, Burundi, Botswana, Cook Islands, Dominican Republic, El Salvador, Eritrea, Ethiopia, Georgia, Iceland, Indonesia, Malaysia, Myanmar, Palau, Panama, Samoa, Syrian Arab Republic, Vanuatu, Yemen, Zimbabwe
60-70%	21	Albania, Argentina, Australia, Brazil, Canada, Japan, Kyrgyzstan, Mexico, Micronesia (Federated States of), Morocco, Niue, Pakistan, Republic of Korea, Rwanda, Seychelles, Singapore, Suriname, Switzerland, Tonga, Ukraine, Uruguay

Source: WHO Global Report of the Tobacco Epidemic, 2013, Database.



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Excise tax, import duty, VAT and other taxes as % of retail price of the most sold cigarette brand, 2012 (cont.)

Total tax incidence	Number of countries	List of countries
70-80%	41	Austria, Bangladesh, Belgium, Bosnia and Herzegovina, Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Ecuador, Egypt, Estonia, Finland, France, Germany, Ireland, Italy, Jordan, Latvia, Lithuania, Luxembourg, Madagascar, Malta, Mauritius, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, San Marino, Serbia, Spain, Sri Lanka, Sudan, Sweden, The former Yugoslav Republic of Macedonia, Thailand, Tunisia, Venezuela
80-90%	12	Brunei Darussalam, Bulgaria, Chile, Greece, Hungary, Israel, Montenegro, Slovakia, Slovenia, Turkey, United Kingdom of Great Britain and Northern Ireland, West Bank and Gaza Strip
Total	187	

Source: WHO Global Report of the Tobacco Epidemic, 2013, Database.



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Basic structures of tobacco excise taxes

- **Specific excises:** taxes that are fixed amounts based on quantity or weight and that are independent of price (e.g. \$1.50 per pack regardless of price)
- ***Ad valorem* excises:** taxes are assessed as a percentage of price (e.g. 45% of the manufacturer's price)
- **Mixed excises:** combination of specific and *ad valorem* tax.

In the previous presentation on the Global Overview of Tobacco Taxation, we showed the classification of countries around the globe by the structure of tobacco excise systems



Types of tobacco excise systems

- Almost equal number of countries employs specific excise only, ad valorem excise only, and mixture of both taxes.
- However, some governments employ more complex tax structures, such as:
 - A combination of an ad valorem duty and a specific duty. If the ad valorem excise falls below a minimum floor, a specific tax applies.
 - A combination of a mixed duty and a specific duty. If the mixed excise falls below a minimum floor, a specific tax applies.
 - Different tax rates based on various product characteristics, including price, length, presence or absence of a filter, soft/hard packaging, and/or manufacturer's output.



Excise application on cigarettes, 2012

	Number of countries
Total covered	186
Specific excise only	56
Ad valorem excise only	50
Mixture of both excises	60
No Excise	20

Source: WHO Report on the Global Tobacco Epidemic, 2013



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The tax incidence depends on the tax base under *ad valorem* excise

- Retail price inclusive of all taxes
- Producer price
- Cost Insurance Freight (CIF) value
- Retail price exclusive of VAT
- Retail price exclusive of all taxes
- A proportion of the retail price inclusive of all taxes
- Producer price inclusive of the excise tax



Countries applying ad valorem tax

Base on which ad valorem is imposed in 2012

BASE

Retail price		Wholesale price, (retail price without taxes)		Producer price or CIF or CIF + Import duties	
Ad valorem	Mix system	Ad valorem	Mix system	Ad valorem	Mix system
Bangladesh, Kenya, Micronesia, Syria, Turkey	27 EU countries, Bosnia and Herzegovina, Brazil, Chile, Croatia, Egypt, Kyrgyzstan, Montenegro, Moldova, Russia, Serbia, Switzerland, Macedonia	Venezuela, Argentina, Equatorial Guinea, Guinea, Morocco, Nigeria, Panama, Rwanda,	Dominican Re., Israel, Tunisia, Ukraine, West Bank and Gaza Strip	Angola, Bahamas, Benin, Burkina Faso, Cambodia, Cameroon, Cape Verde, Comoros, Congo, Cote d'Ivoire, Djibouti, Eritrea, Ethiopia, Gabon, Ghana, Guatemala, Guinea Bissau, Guyana, Lebanon, Liberia, Madagascar, Mali, Myanmar, Niger, Paraguay, St Kitts & Nevis, San Marino, Sao Tome e Principe, Senegal, Sudan, Togo, Turkmenistan, Tuvalu, Viet Nam	Andorra, China, Costa Rica, DR Congo, Salvador, Jordan, Laos, Malaysia, Mexico, Thailand*, Zimbabwe

Note : The base for Thailand's tax is actually: Producer price + excise tax

Source: WHO Report on the Global Tobacco Epidemic, 2013



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Comparison of (uniform) specific and ad valorem excise regimes

Tax structure	Specific	Ad valorem
Tax base	The unit of product (e.g. 1000 cigarettes)	The value of the product (e.g. retail, wholesale or manufacturer price)
Administrative requirements	Low as only the volume of the products has to be ascertained.	Requires strong tax administration with technical capacity. Otherwise, the administrative burden can be high.
Undervaluation	Not an issue.	Susceptible to undervaluation, but this can be overcome by establishing a minimum retail sale price.
Impact on product “quality”	Upgrading effect tend to reduce the relative tax on higher-priced brands	Multiplier effect provides a disincentive to costly “quality” improvement

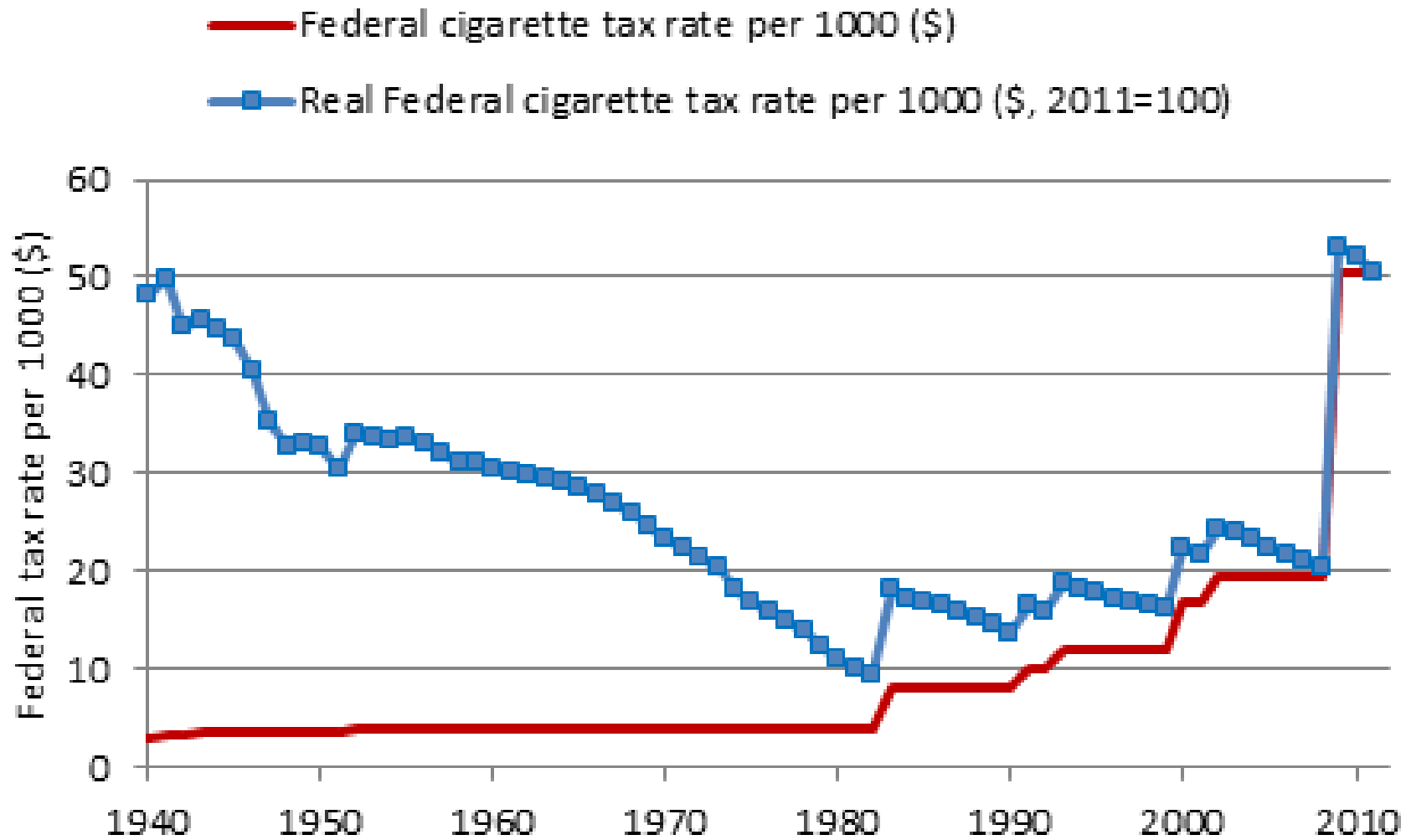


Comparison of (uniform) specific and ad valorem excise regimes

Tax structure	Specific	Ad valorem
Impact on price	Tends to entail relatively higher prices particularly for low-priced cigarettes.	Tends to lead to relatively lower prices.
Inflation	Real value will be eroded by inflation, unless adjusted in line with inflation.	The real value will be preserved as prices increase to the extent that tobacco prices follow inflation.
Impact on revenue	As specific excises are independent of changes in prices, they generally produce a more stable stream of government revenue.	Administration relies on manufacturers' declaration of price at manufacturing or retail level. It can potentially give rise to "transfer pricing"—a tax avoidance behavior of manufacturers induced by the tax system—that results in revenue loss to the government.
Health benefits	The tax will discourage consumption of tobacco products irrespective of the price.	The tax may encourage more "trading down" in favor of cheaper cigarettes reducing health benefit.



Falling real value of specific tax, USA



Source: WHO calculations based on data from Frank Chaloupka



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Excise application on cigarettes uniform rates vs tiers

		Number of countries	
Total covered		186	
Specific excise only		56	
1.	Uniform rate		34
2.	Different rates (tier)		17
	N/A		5
Ad valorem excise only		50	
1.	Uniform rate		30
2.	Different rates (tier)		5
	N/A		15
Mixture of both excises		60	
1.	Uniform rate		50
2.	Different rates (tier)		9
No Excise		20	

Countries applying different types of taxes with tiers or at a uniform rate

Type of tax (Total number of countries: 165)						
Specific (51)		Ad Valorem (35)		Mix (59)		No Excise (20)
Tiers (18)	Uniform (33)	Tiers (6)	Uniform (29)	Tiers (9)	Uniform (50)	
Algeria, Armenia, Belarus, Belize, Fiji, Georgia, Hong Kong, Indonesia, Kazakhstan, Mozambique, Nepal, New Zealand, Papua New Guinea, Philippines, Tajikistan, Tanzania, Uganda, Uzbekistan	Albania, Australia, Azerbaijan, Barbados, Botswana, Brunei, Canada, Cook Islands, Cuba, Ecuador, Haiti, Honduras, Ivory Coast, Jamaica, Japan, Lesotho, Macao, Malawi, Mauritius, Namibia, Nicaragua, Norway, Panama, Peru, Singapore, South Africa, South Korea, Suriname, Swaziland, Taiwan, Trinidad & Tobago, United States, Uruguay	Bangladesh, Burkina Faso, Mali, Senegal, Myanmar	Angola, Argentina, Bahamas, Bolivia, Burundi, Cambodia, Cameroon, Ethiopia, Gabon, Ghana, Guatemala, Guinea, Guyana, Kenya, Laos, Lebanon, Madagascar, Niger, Nigeria, Paraguay, Rwanda, Sudan, Syria, Togo, Turkmenistan, Venezuela, Vietnam, Yemen, Zambia	Andorra, Brazil, China, India, Kyrgyzstan, Moldova, Pakistan, Sri Lanka, Ukraine	Austria, Belgium, Bosnia & Herzegovina, Bulgaria, Chile, Costa Rica, Croatia, Cyprus, Czech Republic, Colombia, Democratic Republic of Congo, Denmark, Dominican Republic, El Salvador, Egypt, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Jordan, Latvia, Lithuania, Luxembourg, Macedonia, Malaysia, Malta, Mexico, Montenegro, Morocco, Netherlands, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey*, Thailand, Tunisia, UK	Afghanistan, Antigua & Barbuda, Bahrain, Iran, Iraq, Kiribati, Kuwait, Libya, Maldives, Marshall Islands, Mauritania, Niue, Oman, Palau, Qatar, Saint Lucia, Saudi Arabia, Sierra Leone, Somalia, United Arab Emirates

Note: The following countries imposed a minimum tax in addition to their statutory rates: the 27 EU countries, Israel, Russia, Senegal, Switzerland, Turkey, Turkmenistan and Ukraine

* Turkey's excise system changed from uniform ad valorem to uniform mix in 2013

Source: TMA 2012 and WHO



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Different bases for tiered systems around the world

34 (18%) of 169 countries covered have a tiered system

Base of tiers		Country	# of countries
Retail price		Bangladesh, Mozambique, Philippines, Belarus, Indonesia, Pakistan	6
High, standard and low end cigarettes		Burkina Faso, Mali, Senegal	3
Producer price		China, Côte d'Ivoire	2
Production volume		Indonesia	1
Type	<i>filter/non filter</i>	Armenia, Belarus, India, Nepal, Georgia, Kyrgyzstan, Moldova, Papua New Guinea, Tajikistan, Ukraine	10
	<i>hand/machine made</i>	Indonesia, India, Philippines	3
	<i>kretek/white cigarette, cheerot/cigarette</i>	Indonesia, Myanmar	2
	<i>Tobacco content (dark/blonde or dark/light)</i>	Andorra, Algeria	2
Packaging	<i>soft/hard</i>	Brazil, Mozambique, Uganda	3
Cigarette length		India, Nepal, Hong Kong, Sri Lanka	4
Trade (domestic/imported)		Andorra, Tonga, Uzbekistan	3
Weight (tobacco content in cigarette)		Belize, New Zealand	2
Leaf content (domestic/imported)		Fiji, Tanzania	2

Seven countries differentiate their excises based on more than one criteria: Andorra, Belarus, India, Indonesia, Mozambique, Nepal and Philippines.

Summary

- Governments levy a variety of taxes on tobacco and tobacco products.
- Because they apply uniquely to tobacco products, excise taxes are particularly important for influencing the relative prices of tobacco products.
- Specific excise taxes on tobacco products are relatively easy to administer, reduce price gaps between brands, generate more predictable revenues, and have a greater public health impact, but need to be regularly increased so that their real value is not eroded by inflation.
- *Ad valorem* excise taxes on tobacco maintain their real value over time, but are more difficult to administer, create opportunities for tax avoidance, and result in larger price gaps between brands, while the revenues they generate are more subject to industry pricing strategies.
- Mixed specific and *ad valorem* tax structures limit the disadvantages of each type of excise, but are more difficult to administer.
- Simpler uniform tax structure is preferred to complex tax structures that apply different tax rates to different brands and/or products based on various product characteristics.

