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Regional Report
Tobacco Taxes
in Latin America

REGIONAL

EFFECTIVE TOBACCO TAXES
IN LATIN AMERICA
**OBSTACLES AND RECOMMENDATIONS
BASED ON NATIONAL EXPERIENCES**



tobacconomics

Economic Research Informing Tobacco Control Policy

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ABOUT RED SUR

The South American Network on Applied Economics (Red Sudamericana de Economía Aplicada, Red Sur), is a policy-oriented research network integrated by public and private universities and centers of knowledge production in the region.

It conducts research in the areas of economic development, natural resources, inclusive growth, employment, integration, trade and value chains, productivity and innovation.

Red Sur is interested in promoting regional socio-economic analysis for policy discussion to respond to the challenges of development. It promotes, coordinates and develops joint studies from an independent and rigorous perspective on the basis of common methodologies with a regional vision.

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Regional report

“Tobacco taxes in Latin America”

EFFECTIVE TOBACCO TAXES IN LATIN AMERICA

OBSTACLES AND RECOMMENDATIONS BASED ON NATIONAL EXPERIENCES

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Within this global initiative, Red Sur led the regional research “**Tobacco taxes in Latin America**”, which mobilized seven research centers to study the different options for tobacco tax policies in Argentina, Brazil, Ecuador, Mexico and Peru.

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No.	Country Study title	Research Team	Center/Country
1	Accelerating effective tobacco taxes in Argentina: The impact of tax reforms	Martín González-Rozada and Julio Berlinski	Instituto Torcuato Di Tella (ITDT/Red Sur) Argentina
2	Accelerating effective tobacco taxes in Argentina: Fiscal and productive aspects	Ricardo Rozemberg, Gabriel Bezchinsky and Ariel Melamud	Centro iDeAS, Universidad Nacional de San Martín (UNSAM) Argentina
3	Accelerating effective tobacco taxes in Brazil: Trends and perspectives	Livio Ribeiro and Vilma Pinto	Fundação Centro de Estudos do Comércio Exterior (FUNCEX/Red Sur) Brazil
4	Accelerating effective tobacco taxes in Peru: Towards sustainable policies	Carlos De los Ríos, Hugo Córdova and Marco Ugarte	Instituto de Estudios Peruanos (IEP) Peru
5	Accelerating effective tobacco taxes in Ecuador: The impact of tax policy	Pedro Páez, Paola Minda, María Dolores Almeida, Ximena Amoroso and Sebastián Burgos	Pontificia Universidad Católica del Ecuador (PUCE) Ecuador
6	Accelerating effective tobacco taxes in Mexico: Tax policy and health costs	Liliana Alvarado, Rodrigo Bolaños, Claudia Córdova, Dalia Toledo and Alejandro Alegría	Ethos, Laboratorio de Políticas Públicas Mexico
7	Accelerating effective tobacco taxes in Mexico: Special taxes, consumption, inequality and poverty	Luis Huesca, Linda Llamas, Cuauhtémoc Calderón and Abdelkrim Araar	Centro de Investigación en Alimentación y Desarrollo (CIAD) Mexico

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ACRONYMS

CILA	Inter-Institutional Committee for the Fight against Tobacco - Ecuador (<i>Comité Interinstitucional de Lucha Anti Tabáquica</i>)
COFINS	Contribution for the funding of Social Security - Brazil (<i>Contribución para el Financiamiento de la Seguridad Social</i>)
COPD	Chronic obstructive pulmonary disease
ENIGH	National Survey of Household Incomes and Expenditures - Mexico (<i>Encuesta Nacional de Ingresos y Gastos de los Hogares</i>)
FCTC	Framework Convention on Tobacco Control
FET	Special Tobacco Fund – Argentina (<i>Fondo Especial del Tabaco</i>)
GDP	Gross domestic product
GLTC	General Law for Tobacco Control - Mexico
GST	General Sales Tax – Peru (<i>Impuesto General a las Ventas, IGV</i>)
IAE	Additional Emergency Tax - Argentina (<i>Impuesto Adicional de Emergencia</i>)
ICMS	State Tax on Circulation of Goods and Services (<i>Imposto sobre Circulação de Mercadorias e Serviços</i>)
IARC	International Agency for Research on Cancer
IEPS	Special Tax on Production and Services - Mexico (<i>Impuesto Especial sobre Producción y Servicios</i>)
IMF	International Monetary Fund
INDEC	National Statistics and Censuses Institute – Argentina (<i>Instituto Nacional de Estadística y Censos</i>)
IPI	Excise tax on industrialized products - Brazil (<i>Imposto sobre Produtos Industrializados</i>)
NCI	National Cancer Institute
GPV	Gross Production Value
LORCT	Organic Law for the Regulation and Control of Tobacco – Ecuador (<i>Ley Orgánica para la Regulación y Control de Tabaco</i>)
PAHO	Pan American Health Organization
PIS	Social Integration Programme – Brazil (<i>Programa de Integração Social</i>)
VAT	Value-Added Tax
SCT	Special Consumption Tax (<i>Impuesto Selectivo al Consumo, ISC – Peru and Impuesto a los Consumos Especiales, ICE - Ecuador</i>)
SIMAR	System for Identification, Marking, Authentication, Tracking and Tax Traceability – Ecuador (<i>Sistema de Identificación, Marcación, Autentificación, Rastreo y Trazabilidad Fiscal</i>)
WAP	Weighted Average Price
WHO	World Health Organization

1. Introduction



The tobacco industry¹ had been lightly levied with different kinds of taxes since its inception until the publication of two government reports in the early 1960s – one from the United Kingdom (Royal College of Physicians, 1962) and another from the United States (United States Department of Health, Education and Welfare, 1964) – provided compelling evidence of the negative effects of tobacco consumption on health (IMF, 2016; Yach and Wipfli, 2006). Since then, society has increasingly accepted stricter regulations on this industry and heavier taxes have been introduced on its products.

The greater relative tax burden on tobacco is a case of excise taxation, even if it is achieved through differential rates in general taxes or, even in the case of equal rates, when they are applied on tax bases that have been increased as a result of some specific treatment, whether through specific design of the taxable amount, or by preventing the deduction of those excise taxes from the tax base of general taxes along the production chain.

There are arguments for selective treatment of tobacco consumption that go beyond those related to health and the correction of externalities and behaviours resulting from misinformation. These are arguments based on the particular characteristics of demand for tobacco products in relation to both price inelasticity and complementarity with leisure

(or replaceability with job opportunities). Even from a purely theoretical perspective, it is not clear whether smoking is a complement to leisure or a replacement for it. As noted in Crawford, Keen and Smith (2010), “For some people smoking may be a leisure-time pursuit; for others, it may help with the stresses and social interactions involved in working; for some it may be both.” On the other hand, stressing that smoking restrictions in the workplace may lead to certain observed results, the authors find statistically significant evidence of the existence of a modest substitution relationship between tobacco expenditure and labour supply, concluding that its magnitude is not enough to justify greater taxation on these products on the basis of this argument.

Although not negligible in terms of revenue collection, its theoretical justification by using the “taxation inversely proportional to elasticity” rule is not sensible in the long term as part of an optimal structure. The poor price elasticity of demand – which to some extent may be a virtue in that it minimizes the surplus burden of the revenue resulting from taxes on “goods” – is also an obstacle to the reduction of the harmful effects directly related to smoking.²

However, there is a progressively validated consensus on differential taxation on tobacco based on hard evidence of its harmful effects on the health of the population. This calls for

1. The word tobacco refers to all the products containing tobacco for final consumption, whatever the form in which it is presented to the consumer.

2. However, in the medium term, it makes it possible to establish a means of taking advantage of revenue for relatively low product prices with respect to the purchasing power of the population (high affordability). See Guindon, G. E. *et al.* (2015), and Goodchild, M. *et al.* (2017).

both corrective taxation on the externalities resulting from tobacco consumption and a forecast of the self-destructive effects on the consumers themselves³ in the medium- and long term.

In regard to the externalities, the first identifiable impact is on the population suffering from the direct effects of second-hand smoke, which, apart from the immediate discomfort, results in many cases in tobacco-related illnesses affecting non-smokers. But there is also another impact related to the increase in the costs of healthcare systems, which requires the internalization of this future public expenditure through the collection of taxes matching those expenses, possibly with more or less specific budgetary implications. In both cases, individual consumption decisions will not reflect the total social costs of smoking, because the individual consumer does not bear the marginal costs of medical care or direct externalities resulting from their own consumption decisions. These excises are therefore a way for the consumer to internalize such costs.

Another subject of discussion is the consequences of individual consumption on the health, employment prospects and decreased productivity of smokers due to their early morbidity. As such costs for the individual consumer do not constitute any externalities, they tend to lead to some skepticism from an

economic point of view regarding the need to implement paternalistic policies to correct the perception of the harmful effects of smoking on health, especially when “Almost all tobacco consumption begins and sets in during adolescence, a period of development characterized by high levels of impulsiveness, risk-taking and immature cognitive control mechanisms” (Steinberg, 2008). However, the vision of the rational, informed consumer may not be adequate in terms of tobacco and alcohol consumption, as noted by Crawford, Keen and Smith (2010), “Some of the individual costs of smoking and drinking arise as a result of the addictive nature of consumption, and this adds a further dimension to the problem. Current consumption may increase the risk of future addiction.”⁴ The tax tool therefore emerges as a way of correcting differential treatment – in terms of legality and illegality – given by the State itself to various products with addictive characteristics; in these cases, the increase in price through taxation also seeks to prevent (discourage) the transition to addictive consumption, mainly among young people.⁵

Consequently, the arguments for excise taxation on tobacco consumption are closely related to the preservation of the population’s health, but they represent a solution to broader problems in the attempt to correct market failures related to a lack of complete information, whether these failures manifest

3. NCI (2016), “Tobacco Control Monograph 21”; and World Bank Group (2017), “Tobacco Tax Reform: At the Crossroads of Health and Development - A Multisectoral Perspective.”

4. Under an assumption of irrationality, addictive goods might not follow the fundamental economic law of a reverse relationship between price and consumption. However this view has been rejected by a large body of economic research that shows that the demand for cigarettes clearly responds to changes in prices (Chaloupka, Warner, 1999).

5. See Warner *et al.* (1995); Jha *et al.* (2000).

themselves as externalities, misperception of risk, and/or addictive behaviours.^{6 7} In these contexts, the patterns of rational addiction are outweighed by empirical evidence of the smoker's change of heart, and the attitude of paternalistic state intervention is replaced with a necessary intervention aimed at correcting flawed markets, while proclaiming excise taxation on tobacco in addition to and regardless of the necessary public intervention in the presence of externalities. In this case, a suitable structure of remedial taxes plays a key role in the internalization of the long-term social costs resulting from the use of tobacco.

Considering the range of situations observed in Latin America in relation to the production and consumption of tobacco and its products, the modality of taxation on these products and other policies adopted to reduce their consumption, it is necessary to assess strengths and future challenges for an effective reduction in smoking, which will undoubtedly result in better living conditions for the population in the region.

In response to that demand, between late 2017 and early 2019, Red Sur undertook a series of studies as part of the global project coordinated by the Institute for Health Research and Policy of The University of Illinois at Chicago (UIC) and supported by the Bloomberg Initiative to Reduce Tobacco Use of Bloomberg Philanthropies, for the purpose of analyzing tax policy alternatives as an effective tool to reduce the levels of

tobacco consumption and improve the health of the population.

In the context of a regional call for project proposals on thematic studies in Argentina, Brazil, Ecuador, Mexico and Peru, seven research teams were selected that developed a series of studies focusing on the economic and tax aspects of tobacco taxation policies in each country. In the cases of Argentina and Mexico, two national teams were selected that addressed different topics.

The following are the teams that prepared the country studies:

- Argentina:

- Ricardo Rozemberg, Gabriel Bezchinsky, and Ariel Melamud, from Centro iDeAS, National University of San Martín (UNSAM).
- Martín González-Rozada and Julio Berlinski, from the Torcuato Di Tella Institute (ITDT) - Red Sur.

- Brazil:

- Ricardo Markwald, Livio Ribeiro and Vilma Pinto, from Fundação Centro de Estudos do Comércio Exterior (FUNCEX)-Red Sur.

- Ecuador:

- Pedro Páez, María Dolores Almeida and Ximena Amoroso, from the Pontificia Universidad Católica del Ecuador (PUCE - Pontifical Catholic University of Ecuador).

6. Gruber, Köszegi (2000); Guhl and Hughes (2006).

7. For a more thorough development of economic models in the presence of addiction, see NCI (2016), "Tobacco Control Monograph 21." Chapter 4: <https://bit.ly/2TyLq7t>

- Mexico:

- Liliana Alvarado, Rodrigo Bolaños, Claudia Córdova, Dalia Toledo and Alejandro Alegría, from Ethos, Laboratorio de Políticas Públicas.
- Luis Huesca Reynoso, Cuauhtémoc Calderón Villareal, Linda Llamas and Abdelkrim Araar, from the Centro de Investigación en Alimentación y Desarrollo (CIAD).

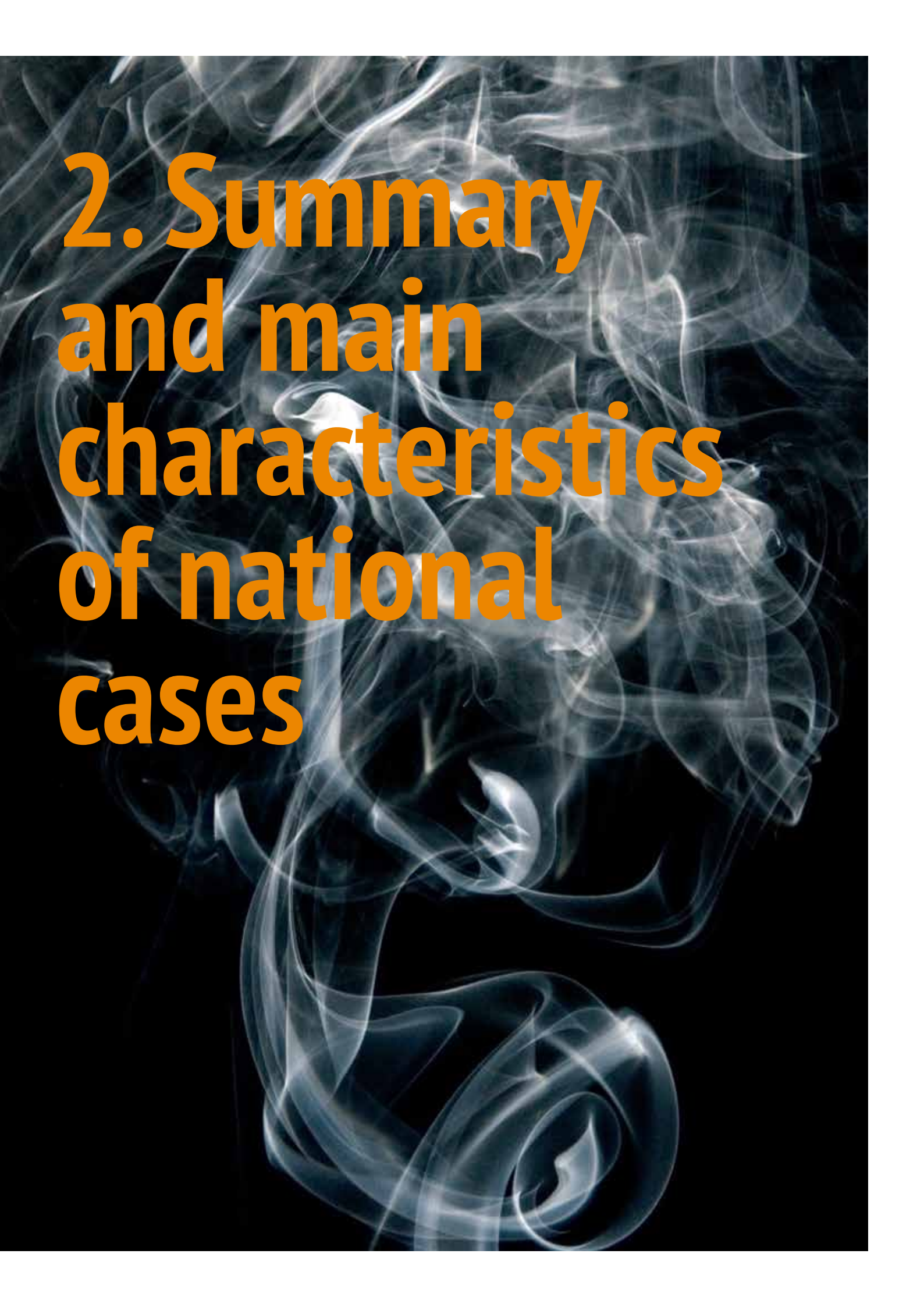
- Peru:

- Carlos De los Ríos, Hugo Córdova and Marco Ugarte, from the Institute for Peruvian Studies (IEP) in collaboration with the Comisión Nacional Permanente de Lucha Antitabáquica (COLAT).

Based on these documents, this report offers an assessment of the status of taxation as

part of the policies aimed at reducing tobacco consumption in these countries, placing them in the regional and international context. It also highlights some aspects that are considered critical for fast progress in obtaining concrete results in the fight against smoking. The report will begin with a short presentation of the seven studies and will then discuss, in subsequent sections, the tobacco consumption situation, the chief characteristics of tobacco taxation, its impact on prices and consumption (including calculations of elasticities), other policies with the same goals, the problems related to the supply of products, proposed specific allocations of revenue from these taxes and the political economy of taxation as a central aspect when considering the feasibility of the necessary reforms. The paper ends with a number of final reflections and the main challenges ahead.





2. Summary and main characteristics of national cases

As noted in the introduction, before starting to analyze the different topics addressed in the studies, there is a brief introduction to the findings of each baseline study at the national level. This presentation is not intended as a replacement for the detailed reading of studies that can be referred to separately in their unabridged and summarized versions in a Policy Brief format.⁸ On the contrary, it is designed as a foretaste of what can be studied in depth in each national case study. In any case, due to the nature of this section, some considerations will have to be repeated in the analyses completing the document.

2.1. Argentina, ITDT-Red Sur study

The paper analyzes the effects of the two latest reforms in taxes on cigarette consumption in Argentina. The first of the reforms was implemented in May 2016 through Decree 626. This reform established an increase in the rate of internal taxes on cigarettes from 60% to 75%. The decree was extended through decree 15/2017 to December 2017. The second reform was established on December 28, 2017. On that date, the National Congress enacted Law 27430, which once again modified the taxes on tobacco consumption. In the particular case of cigarettes, the rate of internal taxes was decreased from 75% to 70% and a specific tax was introduced with a minimum of 28 pesos for a pack of 20 cigarettes. This

minimum tax is adjusted for inflation every three months and the Executive is empowered to increase it by 25% or lower it by 10%.

The tax burden before the tax reform of May 2016 was 68.5%. The average retail price in April 2016 was almost 26 pesos for a pack of 20 cigarettes and internal taxes accounted for 47% of that retail price.⁹ Following the reform, the tax burden increased and reached almost 80% in December 2017. That month internal taxes accounted for almost 61% of the average retail price of almost 50 pesos for a pack of 20 cigarettes.

The second reform, in December 2017, has been only partially implemented. It has not been possible to establish a minimum tax yet, so there are still some packs of 20 cigarettes that cost less than the minimum tax. The tax burden on a pack of 20 cigarettes at an average price of around 53 pesos is 76%. The drop in the rate of internal taxes from 75% to 70% led to a fall in the percentage accounted for by these taxes in the retail price from almost 61% to 56.2%.

To analyze the impact of the reform implemented by Decree 626 of May 2016 on the consumption of cigarettes and on tax revenue for the State, a simulation was implemented which used the econometric tobacco demand estimates made in this studio. The results of this exercise suggest that taxes on cigarette consumption can still be increased and tax revenue can therefore be increased and consumption reduced.

8. The national reports of this study are available at: <http://www.redsudamericana.org/>

9. The remaining 21.5% of the burden was accounted for by VAT and other taxes similar to internal taxes (FET and IAE).

2.2. Argentina, Centro iDeAS / UNSAM study

In regard to the tax reform promoted by Law 27430 of December 2017, it has not yet been fully implemented. Due to different legal court actions by the tobacco industry it has not been possible to introduce a minimum tax on cigarettes. There are still packs of 20 cigarettes that cost less than the minimum tax of 29.87 pesos. As this part of the law has not been enforced, the price gap between expensive and cheap brands has remained relatively stable. This evidence suggests that there has not been any substitution between the consumption of expensive and cheap brands.

The findings of this study suggest that in Argentina, increasing the rates of ad valorem excise taxes has a more immediate effect on smoking and tax revenue than the implementation of a reform that includes only a specific tax, as a result of evident institutional pressure through writs of protection which have managed to thwart attempts to enforce minimum taxes.

Argentina has come a long way over the last few decades with a comprehensive policy on controlling and preventing the demand for cigarettes, including taxation aspects, banning smoking in public places, raising awareness of health impacts, and introducing limitations in advertising guidelines, among other initiatives. However, although the percentage of smokers among people older than 15 years has decreased, tobacco remains the leading factor in deaths due to cardiovascular problems in the country.

Apart from the efforts to reduce tobacco consumption, little has been done in Argentina¹⁰ in recent decades in terms of regulating supply, and initiatives aimed at diversifying and/or shifting the specialization of regional economies involved have so far been few, far between and largely unsuccessful. On the contrary, action to stimulate tobacco production is still being taken as part of the Special Tobacco Fund (FET, for its Spanish acronym). Indeed, the main characteristic that differentiates this production from other agribusiness activities is that it enjoys the benefits of the FET.

10. In 2017, manufacturers of tobacco products accounted for 0.65% of the Gross Production Value of the national industry, with a much more significant presence in the northern, relatively less developed, provinces (11.6% in Salta, 11.1% in Jujuy and 5.9% in Misiones). In terms of employment, the early stages require some 50,000 people (mostly seasonal and informal work), while the industrial stage generates an estimated 6,800 formal jobs. Argentina ranks as the eighth largest producer and seventh world exporter of tobacco. In the 2016/2017 biennium, exports averaged US\$ 340 million per year. China is an increasingly important market, accounting for 1 of every 4 dollars sold to the world. Exported tobacco accounts for 80% of total production. The remaining 20% is sold on the domestic market for the manufacture of cigarettes. Although taxes account for 80% of the value of a pack, the average price of cigarettes is among the lowest in the world.

The FET is financed through a tax of 7% of the retail price excluding VAT of each pack of cigarettes, plus an additional specific component of \$ 0.142 per pack sold (this value has been modified by subsequent regulations). Furthermore, cigarette manufacturers must apply two kinds of withholdings which – although unrelated to the FET funds – play a significant role in the political economy of the sector: 0.35% of the retail price excluding VAT, which goes to the social welfare of the labourers in the sector; and 1% of the same value, used to cover marketing costs in the domestic market.

The distribution of FET funds among the producing provinces shows a high degree of concentration: Jujuy receives 40%, Salta and Misiones 26% each. These three provinces account for 92% of the fund's total resources. While the producers in Misiones are small, the production structure in Salta and Jujuy is based on large producers.

In addition to benefiting larger producers to a greater extent, the FET also benefits the cigarette stockpilers, dealers/exporters and producers, since it reduces the price they pay for the raw material. This way, the FET has been institutionalized as a subsidy mechanism that has produced a powerful coalition of interests contrary to any change in the status quo, despite the fact that the benefit is largely concentrated in the strongest link in the chain. It should be pointed out that the FET funds come from the sales of cigarettes on the domestic market, and then finance 100% of production (80% of which is exported).

In addition, while Argentina exported an average USD 317 million annually in the last five years, the FET collected an average USD 380 million per year in the same period. This imbalance between foreign exchange earnings and FET benefits is widespread in almost all the producing provinces. Directly (via surplus to tobacco growers) and indirectly (via plans), the FET allows tobacco leaf merchants and dealers to lower the price they pay to producers. In the case of dealers, who export tobacco, the FET constitutes an export subsidy. Comparing the FET value and the tobacco exported value, FET seems to be more of a transfer from Argentinian smokers to international dealers than a subsidy to vulnerable tobacco growers.

Far from encouraging crop diversification, the FET has helped to expand and consolidate tobacco production subsidizing tobacco exports. From the national and international review of successful experiences, it becomes apparent that the substitution of tobacco production is possible from the technical point of view and viable at the economic level. Numerous cases of restructuring in different countries around the world prove this. However, this is a long, complex process that must involve producers, seeking new forms of partnership, and recruitment that can replace the incentives provided by the tobacco chain. It also requires the State's active participation not only in the funding of the different actions and technical assistance to producers and associations, but also in the development of infrastructure.

However, the coalition of stakeholders opposing the modification to the FET imposes a severe restriction on any policy aimed at

restructuring – even partially – these policy restrictions, any possibility of taking action on the supply-side to complement efforts to reduce tobacco consumption requires gradual progress on different fronts. In this regard, some actions that could be implemented without the need for substantial modifications to the FET are:

- Improving the use of the funds that benefit small producers.
- Prioritizing productive diversification projects rather than restructuring projects.
- Extending the benefits of the FET for a period of 3 to 5 years after stopping operations as a tobacco producer.

Some additional further-reaching actions could involve:

- Implementing a comprehensive regional development programme that includes – but is not limited to – the restructuring of tobacco production.
- Conducting a campaign aimed at raising awareness among producers of the worldwide trend towards a reduction in tobacco consumption.
- Contemplating a possible increase in tax withholdings on tobacco exports as a means of countering the encouragement for traders and limiting the incentive to expand production/exports.
- Amending legislation in order to turn the FET into a co-participatory tax resource for the producing provinces.

2.3. Brazil, FUNCEX - Red Sur study

Over the past 30 years, Brazil has become one of the world leaders in reducing prevalence of tobacco consumption (from about 35% in the late 1980s to just over 10% in 2016). This has been possible through the implementation of a wide range of policies.

Although increases in cigarette prices were the spearhead of the strategy, Brazil made several institutional efforts as part of the National Tobacco Control Programme to tackle the consumption of tobacco and improve the outcomes of pricing policies.

It should be noted that, although it is important to highlight the success of these policies, there are still significant shortcomings in the mechanisms used to continue reducing tobacco consumption. In an international comparison, Brazilian cigarettes remain very cheap, with prices close to those in “tobacco havens”, despite their relatively heavy tax burden. There is also mounting evidence of the consumption of illicit cigarettes. Independent researchers suggest that the market share of illicit cigarettes has recently increased and reached approximately 45% of total consumption in 2016.

The FUNCEX study highlights the significance of Paraguay to explain the situation of illicit tobacco in Brazil. The best-selling brands, such as Eight and Gift, are legally produced in Paraguay and illegally exported to Brazil. In this regard, it should be noted that international trade data have shown no

official flow of cigarettes from that country since 2002. In turn, seizures of cigarettes by the Federal Police are highly concentrated in the states or tax areas bordering Paraguay.

To understand the significance of Paraguay in Brazil's sectoral situation, the analysis should not be restricted to cigarettes smuggled in. Paraguay is also a major buyer of inputs for the production of cigarettes, such as tobacco leaves, artificial filaments for filters (cellulose acetate paper) and cigarette-related papers. Brazil is a leading supplier of such goods, which implies a very unbalanced (official) pattern of trade between the two countries. Despite these gaps, the literature strongly supports the idea that production consistent with Paraguay's volume of inputs is excessive given the possible legal needs (consumption + net exports).¹¹

Unfortunately, the information available on illicit activities is – as could be expected – scarce. To corroborate the situation, it is pointed out that in Brazil the statistical information on the cigarette production chain shows major inconsistencies between the trends of raw tobacco (inputs) available in the country and the cigarette production estimated through taxes paid. This behaviour of raw tobacco producers suggests a potential illicit supply consumed within the country or abroad. This mismatch has been growing over the last decade. Since an inventory accumulation of several years is irrational, these figures suggest an increasing amount of inputs given the final legal needs. Consequently, there are elements that point to the potential existence of illicit trade in the production chain (both

raw materials and cigarettes) and, probably, illicit domestic manufacture of cigarettes.

Based on the above, it is possible to establish the need to address the information gaps in trade (both at the border and within the territory) to improve the understanding of the cigarette production chain, and thus remove doubts about the inconsistencies in the trade and tax data.

The study found that tobacco control policies need continuous assessment, and the estimates of income and price elasticities provide significant information for the debate of tobacco control policies and the design of tax policies targeted to reduce tobacco consumption and increase tax revenues. The deficiencies in the available data are a strong restraint on econometric estimates in Brazil. The analysis and consideration of the data by analysts with extensive experience in the area are indispensable for an adequate assessment of the policies, since they require specific knowledge of the metadata and Brazilian statistical approaches.

The study's findings show that increases in the tobacco taxes and actual prices of cigarettes and the strengthening of tobacco control policies produce the intended effect of curbing the prevalence of tobacco consumption and smoking, supporting the tobacco control strategy implemented in Brazil.

However, the presence of illegal products jeopardizes the effectiveness of public health efforts and makes the assessment of the tobacco market considerably more complex.

11. See Biz (2010) and Iglesias *et al.* (2012).

The illegal cigarette trade in Brazil undermines the State's ability to fight the tobacco epidemic in the country and makes it difficult to assess the policy, since total cigarette consumption is unknown.

The study concludes that cigarette-related tax revenues have been lower than they should have been. The decrease in revenue collection may be the result of the combination of rising illicit trade and declining smoking prevalence. This gap could also be related to tax evasion by domestic producers. As a result, additional steps are needed to stop an increase in the consumption of illicit cigarettes and curb tax evasion.

2.4. Ecuador, PUCE study

The tobacco agribusiness in Ecuador is not one of the most important economic sectors either in terms of its level of contribution in Gross Domestic Product (GDP) value added (0.01% of GDP in 2016), export share (0.25% of total exports in 2017) or direct generation of jobs (less than 0.01% of the economically active population in 2017). Three companies belonging to the Philips Morris Group (TANASA, ITABSA, PROESA) concentrate the market for the manufacture and wholesale of tobacco products.

According to the Living Conditions Survey (2014), 8.82% of the population over 12 years smoke, either daily or occasionally. 88% of them are male. Almost two thirds of the smoking population lives in urban areas, and 27.3% live in rural areas. In regard to ethnic self-definition, eight out of ten smokers define

themselves as mestizo; while in terms of their age, the highest concentration in terms of number of smokers is in the 30-45 age group, but 50% of smokers start smoking when they are between 16 and 19 years old. Smokers are concentrated in the upper secondary and university education groups and come from the richer quintiles of the population.

Ecuador signed the Framework Convention on Tobacco Control (FCTC) in 2004 and ratified it in 2006. The country has adopted and implemented a number of measures to prevent and reduce tobacco consumption. The following are some of the main non-tax measures:

- Passing the Organic Law for the Regulation and Control of Tobacco (LORCT) in 2011 and issuing its regulations in 2012. In the context of this law, measures have been implemented such as 100% smoke-free areas, graphic health warnings on tobacco packaging, a ban on sales to minors, advertising restrictions, among others.
- The signing of the Protocol to Eliminate Illicit Trade in Tobacco Products (2014) ratified in June 2018.
- The establishment and funding of a national intersectoral coordination mechanism for tobacco control: *Comité Interinstitucional de Lucha Anti Tabáquica* (CILA - Inter-Institutional Committee for the Fight against Tobacco).

The main tax measures include an increase in the rate of the Special Consumption Tax (known as ICE in Ecuador) on tobacco and the recent implementation of the System

for Identification, Marking, Authentication, Tracking and Tax Traceability (SIMAR) in 2017.

The ICE on cigarettes has undergone a number of changes in rate and its calculation in the following four stages:

- I. From 1989 to 1992: an ad valorem rate levied a maximum of 260% on foreign-brand blond cigarettes and a lower rate of between 200% and 240% on domestic-brand cigarettes.
- II. From 1993 to 2006: the ad valorem rate is drastically reduced to 98% and is charged simply by cigarette type (blond or black) without any distinction between national or foreign brands. Blond cigarettes were always levied at a higher rate than black tobacco.
- III. From 2007 to 2011: the ad valorem rate was increased to 150% without distinguishing cigarette type until late 2011.
- IV. 2012 to the present: a specific rate is levied per unit, without distinguishing cigarette types or brands. This rate increased from 0.08 cents in 2011 to 0.16 cents in 2018. The 150% ad valorem rate has been maintained, but only for tobacco substitute products, whose sale is marginal in the country.

Statistical evidence shows that for tax reforms that have increased the ad valorem rate and/or the specific rate per unit on tobacco, the increase has been transferred to the consumer through price increases. The tax burden on cigarettes, that is, how much

of the price of cigarettes is accounted for by the Special Consumption Tax (SCT) and VAT, was close to 64.29% in 2011 and reached 66.37% in mid-2018, a value that is still below the 75% recommended by the World Health Organization (WHO).

In terms of revenue, the share of SCT on tobacco has tended to decrease, going from 0.19% of GDP in 2002 to 0.08% in 2017. Although the reforms to the SCT on cigarettes initially increased revenue in absolute terms, as of 2015, when the rate was almost doubled, revenue began to decline. This behaviour is reflected in the decrease in sales reported by tobacco-related Internal Revenue Service (IRS) taxpayers, which could be attributed to a decline in consumption, but could also be due to an increase in tobacco smuggling. While the implementation of SIMAR has improved the registry of taxpayers and made more information available to close the tax return gap, it is necessary to support the IRS in estimating the evasion gap, and other public institutions need to join the control process for improved efficiency. On the other hand, taking account of the fact that the existence of illicit trade could be covering part of the demand for cigarettes, it is necessary to support the implementation of SIMAR to reduce smuggling.

Finally, the PUCE study underscores the importance of improving the effectiveness of policies to reduce tobacco consumption by increasing the tax burden to change the consumption patterns of individuals. However, they argue that this effort must not be disjointed and isolated from other demand-side public policies related to education and health, which promote prevention and control

measures aimed at household habits and promoting healthy lifestyles.

Additionally, it is essential to work on the supply-side through the implementation of public policies to discourage production.

2.5. Mexico, Ethos study

This study analyzes the tobacco control policies that have been implemented in Mexico over time, focusing in particular on the effectiveness of tax policies in reducing cigarette consumption and the impact of smoking on public finances. To this end, it presents both the legislative measures and the actions taken since Mexico signed the FCTC.

Despite these efforts, prevalence in Mexico remains high, since one of every five Mexicans over the age of 12 smokes. Among the different reasons, one is the serious shortcomings in the implementation of smoke-free spaces and the eradication of tobacco advertising. Similarly, neither the health warnings on the packs nor the anti-smoking campaigns have yet had the intended impact.

The costs generated by tobacco in the health sector are so high that the revenue from the Special Tax on Production and Services (IEPS) only covers half of them, excluding the activities that seek the prevention and elimination of tobacco consumption. In this context, a higher rate of tobacco tax would not only result in an incentive for people to smoke less, but it would also help reduce the burden of smoking on public finances. Taking account of the fact that the IEPS has an ad

valorem and specific components, failure to update the latter since 2013 has led to a significant loss in revenue, so the effectiveness of the tax has been eroded over time.

The study presents the results of a number of simulations in order to determine the best way to modify the IEPS and make it more effective. First, it analyzes what would happen if no tax changes were made. This would imply that by 2022 there would have been an increase in consumption and a decrease in tax revenue as a result of the reduction that would occur in the actual value of the specific component of the tax. In the second scenario, the specific component is updated annually to match the evolution of inflation. In this case, there would be no changes either in the levels of consumption or in the actual value of the revenue from collecting this tax.

Four tax reform scenarios are also considered. In the first two scenarios, each component of the tax is modified, keeping the other one constant and trying to increase the IEPS more than inflation. When only the specific component is increased, the reduction in consumption is more evident, although there is a risk that the tobacco industry will reduce the number of cigarettes per pack in order to reduce the final impact of the price. On the other hand, in the case where only the ad valorem rate is increased, the increase in revenue is more significant, although this would possibly cause consumers to shift their consumption towards cheaper brands.

Thus, one of the most important findings of the research is that if the aim is to prevent consumption levels from increasing or remaining stable and increase tax revenue, it

is necessary for the tobacco tax to be periodically updated at a greater rate than inflation to reduce cigarette affordability. However, the study warns that the possible adverse effects that could occur in this type of reform should be considered.

To prevent unintended consequences, in the last two reform scenarios both components are adjusted simultaneously, with different goals in mind. In one case, the aim is for the tax burden in the final price to conform to the recommendations of the WHO, while, in the other case, the aim is to align the retail price in Mexico with that in advanced economies. As expected, in both scenarios there are greater decreases in consumption and greater increases in tax revenue.

The Ethos study provides information on the amount of money that goes to the fight against smoking through an analysis of Mexico's public budget. The conclusion is that due to the current budgetary architecture – where budget schemes do not distinguish between combating tobacco and fighting other drugs – it is difficult to break down anti-smoking spending accurately. The study also emphasizes that there is no indicator to measure the efficiency of spending.

A number of recommendations can be drawn from this paper at the level of tax and budgetary policy:

- Linking the collection of tobacco taxes with the prevention, cessation and treatment of diseases caused by the consumption of this product.

- Redesigning the budget structure related to tobacco control, designing specific indicators to determine the effectiveness of each of the actions taken by the State and measure how efficiently public resources are used in the fight against smoking.
- Setting and sustaining a high rate of the Special Tax on Production and Services (IEPS) and contemplating adjustment for inflation in its design.

The study also proposes some measures that could improve tobacco control in Mexico:

- Designing a National Policy for Tobacco Control.
- Improving health warnings on packs.
- Extending anti-smoking campaigns to the digital sector.
- Strengthening preventive measures against exposure to tobacco smoke.
- Improving institutional activities aimed at smoking cessation.
- Moving from vague legislation to specific tobacco control policies targeted to reduce consumption.

2.6. Mexico, CIAD study

This study evaluates the effect of the special tobacco tax on the Mexican population's consumption and analyzes the distributive effects in four tax reform scenarios.

From 2010 to date, tax revenues from the special tax on tobacco have remained at the same level of 0.2% of GDP. In 2018, these revenues accounted for barely 36% of smoking-related health spending and treatment, which in turn accounted for 0.55% of GDP. In Mexico, the prevalence of smoking in 2016 was 17.6%. At the same time, half of the population lives in poverty. Therefore, a tobacco tax increase should have the direct impact not only to reduce consumption, but also to support healthcare costs related to tobacco use, especially for households living in poverty with high tobacco expenditures.

In Mexico, the special tax on tobacco is a mixed levy; the ad valorem and specific components have had the same structure since 2011 (160% and 0.35 pesos per cigarette, respectively). This tax lag means that Mexico is one of the few countries in Latin America where the tax burden is not adjusted for inflation, so the effect of the tax has been fading over time. Furthermore, Mexico has one of the lowest tax burdens on tobacco in Latin America (just above Colombia and Paraguay). At present, indirect taxes (special tax and value added) account for 67% of the final price of the product.

The four reform scenarios are similar to those considered in the Ethos study: a) increase the specific component of the tax, to 1.35 pesos; b) increase the ad valorem component to 240%; c) increase both components to reach the tax burden suggested by the WHO (260% and 0.80 pesos); d) increase the ad valorem component to 240% and in the specific component to 2.35 pesos for the purpose of adjusting the internal price to international levels.

The most important findings from this study are:

- Contrary to tobacco use trends in other countries, prevalence among poorer people is the lowest relative to people in higher-income deciles of the population. As highest income deciles have a greater prevalence and consume higher priced brands, a higher share of tax revenues come from taxpayers in the highest income decile. This results in a progressive redistributive effect.

- The estimated price elasticity for cigarette demand is around -0.58, which is in line with previous empirical studies in Mexico. Elasticity of smoking participation is -0.12 plus conditional elasticity of cigarette consumption -0.46.

- There is little variation in conditional price elasticity by income level, however some preliminary evidence suggests conditional price elasticity is lower in the first decile than in the higher income decile. Therefore, it is expected that poor smokers who keep smoking after the tax increase will reduce their consumption relatively less than wealthy smokers.

- The amendment of the IEPS should increase the amount of the specific component in a greater amount than the ad valorem rate because the specific tax: a) is required to be updated above inflation periodically; and b) produces a greater reducing effect in consumption.

- The increase of the specific tax component does not increase the regressivity of the tax, because much of the tax burden of the

specific component falls on higher-income smokers.

- The tobacco tax increase will have a limited impact on poverty. Even in the most aggressive scenario, poverty will increase 2.6% among those who continue to smoke after the tax increase. For this reason, tobacco tax increases should be part of a comprehensive package of tobacco control policies to encourage smokers to quit.

- The effect of tax reforms on inequality would also be limited. In the first two scenarios the increase of Gini index would be less than a percentage point. In the third and fourth scenarios would be 1% and 1.07% respectively. Although the last two scenarios establish more aggressive tax reforms, their impact on inequality within their group would be relatively low and imperceptible at the national level.

The study suggests that with the additional resources from the tobacco tax reforms, it is possible to contribute to tackling the problem of poverty. It is suggested that the tax resources from tobacco should be used for two purposes.

The first purpose is to strengthen national health programmes against smoking-related diseases. One proposed strategy is to expand the coverage of smoking-related diseases through the existing *Seguro Popular* (which does not include them at present), which provides health services to the low-income population in Mexico. In addition, the resource should be used for the implementation of a health programme to combat these diseases

that includes a full package of studies for the detection of tobacco-related diseases.

The second proposal involves assigning a transfer to population groups living in poverty consisting of a food basket (made up of the most consumed foods among the poor: eggs, beans, milk and tortillas) through food stamps. As an action strategy, this could be implemented by using the government distribution channels known as *Diconsa-Liconsa*, or by means of monetary transfers through activated cards and labelling the resource only for the acquisition of the four types of food included.

Finally, the study recommends implementing the type of reforms considered in the third and fourth scenarios for the following reasons: a) the smoking households would reduce their tobacco consumption by 36% in the low-income deciles, while in the higher-income deciles it would decrease by 23%; b) the variation in the cigarette price would be up to 42.8%, and higher in the lower deciles (of 47.5%); and c) there would be moderate increases in poverty levels among smoking households.

Even though indirect taxes (excise tax plus VAT) currently account for 67% of the price of tobacco in the country, this total tax share is still below the 75% recommended by the WHO. In any tax reform scenario, it is essential for the specific component of the special tax to be updated in keeping with inflation, so that it does not lose its reduction effect on consumption over time.

In regulatory terms, a subsidy on the basic food basket would compensate the most

for the poverty among continuing smokers caused by the increase of the tobacco price tax. These groups will therefore be able to acquire more food and, at the same time, the taxes will reduce the consumption of tobacco and lead to a change in their consumption pattern. On the other hand, this paper reveals that a subsidy on health expenditure would compensate only the smoking households living in chronic poverty. In order to implement the described recommendations in the form of public policies, it is necessary for the Mexican government to pass laws for the allocation of tobacco-related tax revenue resources, since, if the corresponding law is not amended, the additional resources obtained will continue to be allocated to other public expenditure items.

2.7. Peru, IEP study

The main objective of this research is to develop a tax strategy to reduce the high social and economic costs of smoking in Peru, in keeping with the recommendations of the WHO. The study uses information on the amounts of tobacco consumed (apparent consumption) that are econometrically related to prices, the population's income and a set of variables that help to capture the effect of

non-tax policies (such as the implementation of the FCTC agreement). With this information and taking account of the recent behaviour of the industry before the changes in taxes, tax policy scenarios are simulated that could help progressively reach the tax burden level required to meet the WHO objectives.

In Peru, the tax framework for cigarettes is simple and consists of three types of taxes: the General Sales Tax (GST), the Special Consumption Tax (SCT) and customs duties. Since Peru is an importer of the cigarettes that it consumes (it does not produce or export) and has signed free trade agreements with the exporting countries,¹² customs duties do not apply as a tax policy instrument.¹³ Therefore, the simplest and most effective instrument for anti-smoking tax policy is the SCT on cigarettes.

Since January 2010, the Finance Ministry has been implementing a tax policy for tobacco control based on the use of the SCT specific component, with no differentiation by kind of product. The amount of the tribute was 0.07 soles from January of that year, increasing to 0.18 soles in May 2016 and 0.27 soles in May 2018.

In the latest changes to the SCT, the average tax burden on cigarettes rose to 60% of the retail price (in 2010 it was 42%¹⁴), taking

12. 98% of imports come from Chile, Colombia and Ecuador, countries with which Peru has free trade agreements. The tax on imports is currently 6% of the "customs value" for all cases in which there is no prior agreement.

13. At present, the General Sales Tax (GST) is 18%, and its tax base for calculation is the "customs value" plus customs duties and other taxes (with the exception of the General Sales Tax). The "customs value" is made up of the value of the goods, the freight, the insurance and the corresponding adjustments; and will be determined in accordance with the procedures and methods of the WTO Valuation Agreement.

14. COLAT (2014), pp. 32.

the average price of cigarettes in Peru¹⁵ as a reference (12 soles per pack of 20 cigarettes). Consequently, it can be said that the Finance Ministry does not have a clear programme for updates according to changes in revenues and prices in the economy, losing tax burden when it fails to modify the tax, mainly because of the regular price increases policy of the tobacco industry, which limits the long-term effectiveness of recent tax policies and compromises the objective of increasing the total tax burden to 70% of the retail price.

This study shows that the effect of non-tax policies (such as the implementation of the FCTC) is significant and negative on the demand for tobacco, and that it is possible to differentiate that effect from that which occurs as a result of price rises. In general, this study confirms the findings of COLAT (2014) regarding the inelasticity of the demand for tobacco, so tax policy instruments could be used effectively to reduce its consumption. In fact, following the latest increases in taxes, there has been a significant reduction in cigarette consumption, which implies a reduction in the social and economic costs of smoking in Peru.

In order to identify a sustainable policy for regular increases in taxation, the study developed a predetermined mechanism for constant SCT increase above inflation, which would help to reduce apparent consumption and reach the goal of excise tax being at least 70% of the retail price by 2030. Using the estimated demand equation (and the extreme values of the 95% confidence interval) and without considering income elasticity or the exchange rate,¹⁶ 5% increases in the SCT were simulated for the period 2019-2030, taking account of three possible tobacco industry response scenarios (full transfer of the tax to consumers, 15% overshifting,¹⁷ and adjusting prices in such a way that gross income remains unchanged).

The results obtained indicate that the tax burden by 2030 would be between 67.10% and 74.80%, achieving a drop in apparent consumption of between -7.2% and -22.30%, and an increase in revenue of between 34.80% and 56.30%. In this regard, the increase in taxes should be approximately two percentage points above the average inflation in the last decade (3%) to reach a tax burden that will account for an estimated 70% of the retail price by 2030.

15. The figures take as a reference the average supermarket retail price of the best-selling brands in the country as of November, 2018. <https://bit.ly/2EZcrGT>

16. Estimated income elasticity is not statistically significant and it is estimated that the evolution of the exchange rate is proportional to inflation, so the only thing that will determine apparent consumption over time is price changes.

17. An *overshifting* policy involves transferring to the prices a higher increase than the effect of changes in costs. Consequently, a 15% *overshift* involves increasing prices 15% more than they would have increased by transferring only the increase in costs due to the tax increase.



3. Characteristics of tobacco consumption

According to WHO estimates, the prevalence rate among smokers over the age of fifteen was 20.7% worldwide in 2015. There are significant differences in rates between men and women. In the case of men, prevalence was 35%, and in the case of women, it was 6%.

An analysis of the time trend shows a reduction of smoking prevalence from 23.5% in 2007 to 20.7% in 2015. That is to say, the rate fell by 2.8 percentage points in eight years. However, this does not happen in the same way in every country.

Despite the reduction in the global prevalence rate as a result of the growth in world population, the number of smokers in the world has not decreased.

An important aspect related to tobacco taxation is the distribution of prevalence depending on household income level.

Although the proposal on increasing the taxation of tobacco to reduce consumption is widely supported, it also has its detractors, including – naturally – companies related to its production and marketing. One of the arguments used to lobby against this measure has to do with the regressive effects that could result from an increase in the tax burden on tobacco. The argument is that lower-income households tend to allocate a greater proportion of their spending to tobacco consumption and – assuming that consumption patterns do not change – the results of the

increase in taxation would be negative for the poorest sectors of the population.

Under certain circumstances, the situation could be different, depending on the sensitivity of demand to variations in the relative price of tobacco. If the reduction in the amounts consumed were greater in the case of people with lower incomes, the percentage of increase in the tax burden for these people would be lower than for people with higher incomes. The tax burden on people with lower incomes could even be reduced.

A study conducted for Turkey¹⁸ shows that a 25% increase in tobacco taxation would result in a 35.3% reduction in consumption among lower-income households and a 2.2% reduction in the tax burden on tobacco. On the other hand, among higher-income households, the reduction in consumption would be lower (18.5%). As a result, there would be a 9.7% increase in the tax burden for rich households. In this case, the increase in tobacco taxation would result in a more equitable distribution of the tax burden.

In addition, considerations about the impact of increased tobacco taxation on equity are not exhausted with the analysis of the direct impact of the tax burden. It is necessary to take account of the fact that tobacco consumption negatively affects the health of the population, generating expenses for households that can become catastrophic, depending on the health financing scheme in force in each country. The lower the financial coverage of people – that is, the greater the weight of the direct health expenditure of households – the

18. Tobacconomics (2018), Policy Brief, February.

greater the positive impact of increases in tobacco taxation in terms of equity.¹⁹

Given the effects of health problems on absenteeism, tobacco consumption also impacts on household income. In short, the negative effects of tobacco consumption on health can be direct and indirect. One direct effect is the morbidity resulting from the consumption of chemical substances contained in tobacco. One indirect effect, particularly in lower-income households, is that spending on tobacco consumption can displace other healthy consumptions – food being a case in point. Reduced tobacco consumption can improve the economic situation of lower-income households by reducing direct personal expenses on medical care.

3.1. Prevalence of tobacco consumption in the Americas

As in the rest of the world, there is a trend in the Americas towards a reduced prevalence of smoking tobacco. Between 2007 and 2015 the rate went from 22.1% to 17.4%, a reduction of 4.7 percentage points, which is higher than the worldwide percentage of reduction.

Although the average prevalence rate in the Americas is similar to that observed worldwide, the distribution by sex shows smaller differences. The rate is 22% for men and 12% for women, with a ratio of 1.7 male

19. Another possibility is that health systems may also introduce restrictions on access to certain services for smokers.









smokers per female smoker. At the global level, this ratio is as high as 5.8.

The prevalence rates according to the Pan American Health Organization (PAHO) for the countries in the study are shown in the following table.

In the cases of Argentina, Brazil and Peru – within the group of countries studied – the pattern is the same as that usually observed worldwide, characterized by a concentration of the number of smokers in the poor sectors with lower educational levels, whereas Mexico and Ecuador are exceptions to this pattern.

In the case of Mexico, there is a higher prevalence of households that consume tobacco as the level of income increases. In other words, the number of households spending money on tobacco grows in proportion to the level of income. More precisely, in the first income decile, about 4% of households spend money on tobacco, which accounts for an average 5.5% of their total expenditure. On the other hand, the highest prevalence of tobacco consumption is observed in the highest income decile, where prevalence reaches 17% of households; and tobacco-related expenditure accounts for 2.0% of total expenditures.

Table 1.
Current consumption of smoked tobacco (%)
in adults, unless otherwise stated

Country	Men	Women	Ratio	Total	
Argentina*	29,9	20,9	1,4	25,1	
Brazil	18,9	11,0	1,7	14,7	
Ecuador	38,2	15,0	2,5	31,5	
Mexico	25,2	8,2	3,0	16,4	
Peru**	10,9	8,4	1,2	9,7	
World			5,8		

Note: *Refers to current cigarette consumption (%) in adults.

**Refers to current tobacco consumption (with and without smoke) (%) in young people.

Source: Report on Tobacco Control in the Region of the Americas, 2018 - situation of tobacco control by country, PAHO. <https://bit.ly/2TxjH73>

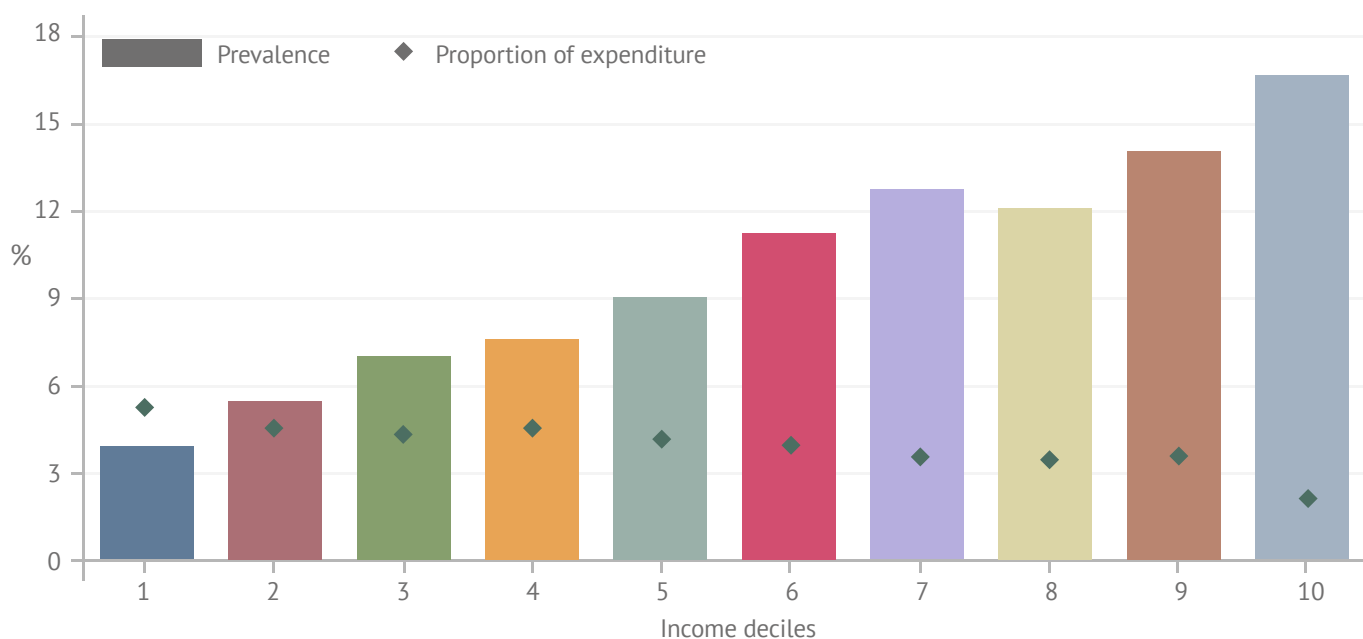
3.2. Spending on health and tobacco consumption

Something similar happens in the case of Ecuador, with 36.4% of all smokers coming from the fifth quintile of consumption, while only 7.4% of the smoking population is from the first quintile. The two highest quintiles concentrate most of the Ecuadoran smoking population.

Within the population of each of the consumption quintiles, 6.3% of the individuals in quintile 1 state they are in this habit; while in the case of the individuals in quintiles 2, 3, 4 and 5, the prevalence is 6.9%, 8.1%, 8.9% and 10.9% respectively.

There is ample evidence that consumption of cigarettes or manufactured tobacco products worldwide is responsible for several chronic and catastrophic diseases that lead to high levels of morbidity and mortality. According to the WHO, tobacco consumption around the world caused the death of more than seven million people in 2017. The forecasts are that, if no action is taken to reduce tobacco consumption, the number of deaths

Figure 1. Prevalence of households with tobacco expenditure and proportion of expenditure on tobacco. Mexico 2016.



Source: Developed by CIAD based on ENIGH, 2016.

will increase in the future. These health problems generate expenses for society which are partly covered by public funds, and partly by the affected households directly.

In this region, a significant part of health spending is financed with public funds from direct public provision or contributory social insurance schemes. This share is as much as 61% in Peru, 55% in Argentina, 52% in Mexico, 49% in Ecuador, and 46% in Brazil (according to statistical WHO information).²⁰

Therefore, tobacco consumption has a significant impact on the tax side of the economies. On the other hand, when expenditures are not covered by public funds, the corresponding direct expenditure necessary to deal with health problems can turn into catastrophic expenditure for low-income households.²¹

Every year, smoking is responsible for \$ 33,576 million in direct costs for health systems in the region (Pichon-Riviere, A. *et al.*, 2016). This amounts to 0.7% of the GDP in the region and 8.3% of the health budget. Cardiovascular disease, chronic obstructive pulmonary disease (COPD) and cancer were responsible for 30.3%, 26.9% and 23.7% of this expense respectively.²²

The cost attributable to smoking ranged between 0.4% (Mexico and Peru) and 0.9% (Chile) of GDP and between 8% (Brazil)²³ and 12.7% (Bolivia) of health expenditure. In the region, the tax revenue from the sale of cigarettes barely covers 37% of the health expenditure attributable to smoking (8.1% in Bolivia and 67.3% in Argentina) (Pichon-Riviere, A. *et al.*, 2016). Smoking is responsible for a significant proportion of health spending in Latin America, and the tax revenue from the sale of cigarettes is far from covering it. The countries in the region should give serious consideration to a reinforcement of measures such as an increase in tobacco taxes.

In Mexico, smoking is responsible for 49,189 deaths a year, 147,449 people with COPD, 108,469 with heart problems, 21,062 with pneumonia, 15,273 strokes and 6,375 cases of lung cancer. The number of people in Mexico diagnosed with a disease related to tobacco consumption rose to 310,059, which accounts for approximately 0.24% of the total population.

The case of Mexico can be used as an example of the potential extent of health spending related to tobacco consumption. The health cost resulting from smoking accounts for an estimated 0.42% of GDP and 6.62% of total annual health expenditure in the country. Of all the pathologies caused by tobacco smoke, heart disease is the most

20. See <https://bit.ly/2JebK1I>

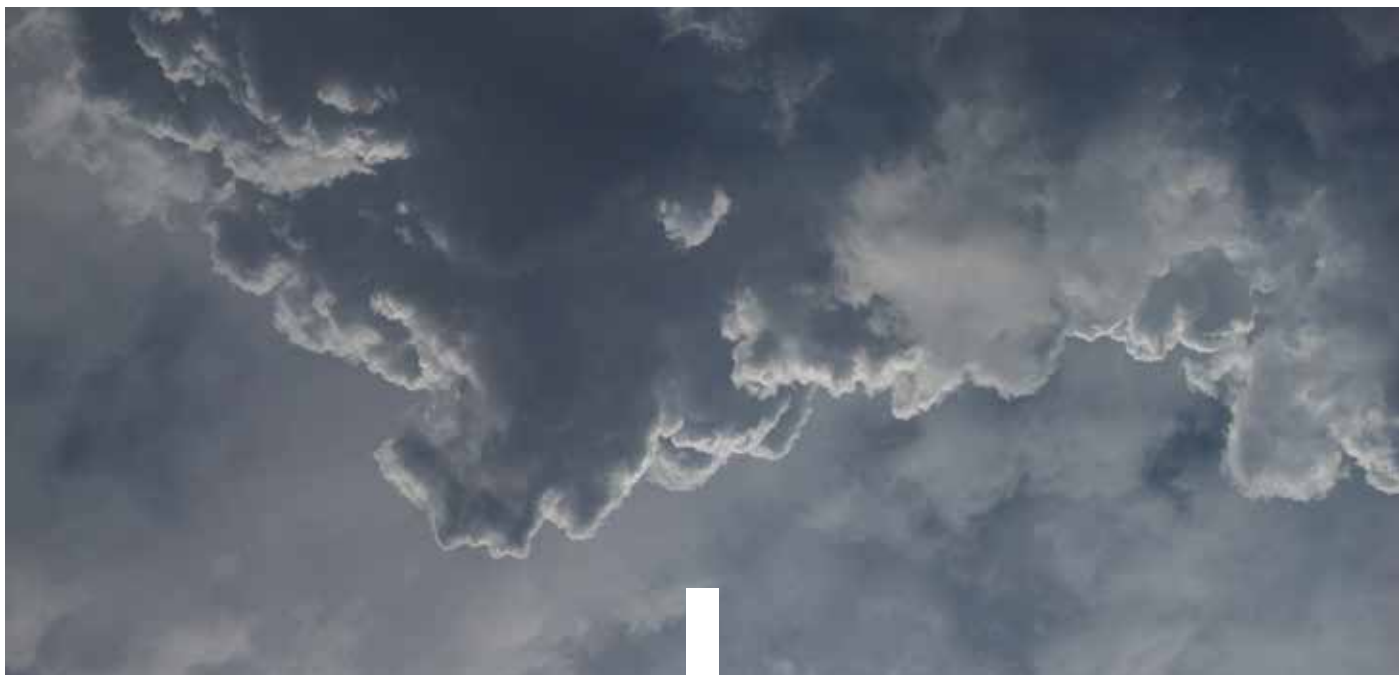
21. A household with catastrophic health-related expenses is defined as one allocating more than 30% of their ability to pay to financing their members' health: <https://bit.ly/1eQntzw>

22. Pichon-Riviere, A. *et al.* Financial impact of smoking on health systems in Latin America. *Rev Panam Public Health*, 2016 40(4):213-221.

23. IECS: https://www.iecs.org.ar/wp-content/uploads/Flyer_tabaquismo_Brasil-v9.pdf

expensive because of the large number of people suffering from it, followed by COPD, also due largely to the number of people that are diagnosed with this condition.

A debatable point, which is raised in some of the studies conducted as part of this project and requires further reflection, is the idea of assigning all or a part of the funds raised by tobacco taxes directly to the health sector, in general, or to specific programmes such as smoking cessation. Those responsible for fiscal policy are concerned about the rigidities that earmarking introduces in the allocation of public resources. This will be analyzed later in this report.





**4.
Main features
of tobacco taxes
prevailing
in the region**

This section presents the salient features of tobacco taxation in the region, with a focus on the five national case studies, preceded by some general considerations regarding the tax burden on tobacco from the theoretical perspective of tax policy.

4.1. General recommendations on the tax burden on tobacco

Due to the different effects that the existence or inexistence of a price “multiplier effect” has on final prices, depending on whether it is ad valorem or specific, respectively,²⁴ the optimal tax theory suggests a combination of both components to avoid any possible bias regarding the diversification of products, increases in quality, or increases in added value, in relation to the situation prior to the existence of taxes (Delipalla and Keen, 1992). In this regard, the IMF (2016) warns that, to a large extent, the combination of specific and ad valorem structures tends to be the result of the pressure of the industry. The powerful impact of the multiplier effect on the structure of the market makes the choice between ad valorem taxes and specific taxes a central point of the industry lobby. In addition to

total tax burden, “changes in the existing tax combination can, therefore, have a complex impact on market dynamics and revenues, and governments should analyze and assess industry proposals based on their own objectives.”

On the other hand, the motivation in tobacco taxation at present is not related to the search for neutrality in the collection of tax revenues, but in the protection of the citizens’ health, so the adequate tax structure for tobacco products will be motivated by the choice of the most effective instruments for the intended corrections in the population’s consumption patterns, where the final impact will be a result of the transfer in prices.

In 2014, the State Parties to the FCTC adopted the guidelines for the enforcement of Article 6, which recognizes price and tax measures as the most effective means of influencing the consumption of tobacco products, noting that they not only limit negative externalities (including high health costs and lost productivity resulting from diseases attributable to tobacco), but they also contribute to covering public health spending related to consumption and exposure to tobacco smoke.

In this context, recommendations were made on the design and management of these particular tax instruments²⁵ that – with a focus on the reduction of consumption – leave

24. For example, if a manufacturer faced with a 50% ad valorem tax on the price upon leaving the factory decides to improve the quality of their products and transfer the additional costs to the customers, the price increase will be 50% higher than the aggregate cost, as a result of the ad valorem structure of the tax. This is known in optimal taxation theory as a multiplier effect on the price. On the other hand, in the case of specific taxes, because the cigarette tax is fixed, manufacturers can enjoy the benefits of value-added investments on their products with a lower price increase, as a result of not transferring part of that greater value added to tax revenue.

25. WHO (2014). Guidelines for implementation of Article 6 of the WHO FCTC (Measures related to prices and taxes to reduce

general taxes on turnover or profits out of the equation,²⁶ and point to the introduction of excise taxes in order to increase the relative price of these harmful products and reduce their affordability. These recommendations can be summarized as:

- Making tobacco products less affordable by not only considering the price and income elasticity of products, but also the evolution of the general level of prices and changes in household income, introducing periodic revaluation of tobacco taxes.
- Establishing a simple, efficient system through specific or mixed excise taxation, with specific minimum taxes, which will help to use administrative advantages over ad valorem taxation.
- Taxing all tobacco products in an integrated and systemic way in order to prevent substitution between cheap product categories in response to the price increase caused by the policies implemented to reduce tobacco consumption.

The aim is to raise the tax burden on tobacco products in real terms, both with respect to other goods with the aim of encouraging the substitution effect on their consumption, and with respect to family income to reduce their affordability in the population. A structure of

specific taxes or a mixed structure in the presence of minimum taxes, coordinated between products, would help to reduce the level of manipulation of market prices by the industry and prevent migration between products.

The consolidation of this consensus in Latin America is the result of the appearance of international literature on the effectiveness of tax increases in reducing the consumption of tobacco products,²⁷ and the greater interest generated by the fulfilment of the Sustainable Development Goals by 2030. These efforts require the collection of resources to take on the challenges related to providing public goods and social welfare to take advantage of the double dividend of this type of Pigovian taxation.²⁸ On the other hand, we must take account of the particular objective of achieving a reduction of 30% in deaths from non-communicable diseases by 2025.²⁹ In this regard, WHO and PAHO highlight the importance of generating a favourable context for increasing the tax burden on tobacco consumption. Through their annual reports, both organizations point out that the ample empirical evidence and continuous monitoring of compliance with the FCTC show not only that taxes are the most effective tool to reduce tobacco consumption, but that light tax burdens around the world today pave the way for tax increases that will contribute to an effective reduction in the consumption of

the demand for tobacco). Sixth Meeting of the Conference of the Parties to the WHO Framework Convention on Tobacco Control; October 13 to 18, 2014, Moscow (Russian Federation). Geneva: World Health Organization, 2014 (FCTC / COP6 (5) decision).

26. This restriction in the approach limits effectiveness in the fight against tobacco on the side of production or investments in the tobacco sector.

27. WHO (2010); IARC (2011); Guindon *et al.* (2015).

28. Taxes that seek to correct externalities. The name comes from the man who pioneered them: Arthur Pigou.

29. PAHO (2018); and WHO (2017).

these products, whether through substitution with healthier consumption or the reduction in their affordability due to its increased price in absolute and relative terms with respect to other goods and services.

4.2. Tobacco taxation in the region

As an introduction to the general features of the situation on the continent, it can be pointed out that, on the basis of the information provided by the WHO Report database (2017), a set of empirical regularities can be identified which characterize tobacco taxation in the countries in the region.

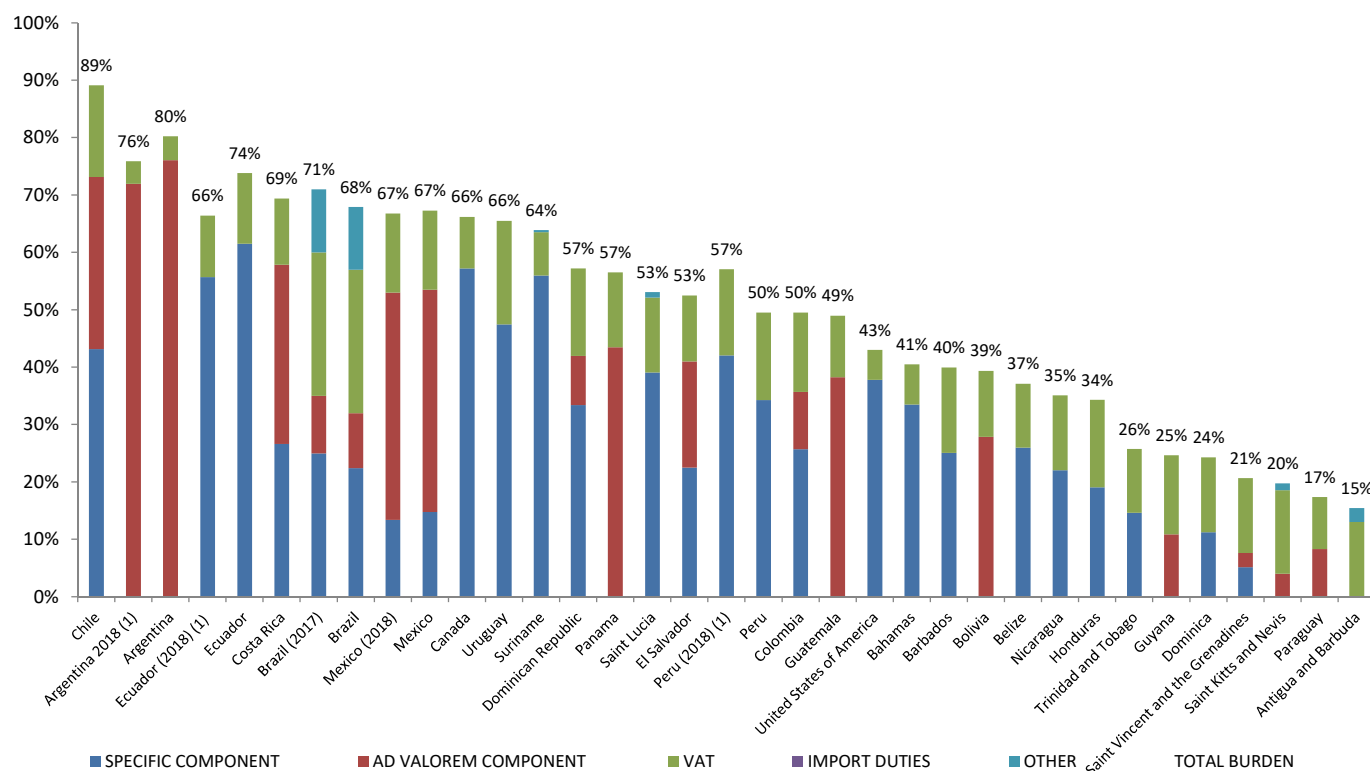
Firstly, and as is often the case when analyzing Latin American countries, it is not possible to find a unique pattern of tobacco taxation. As shown in figure 2, there is a wide range of tax burdens on cigarettes as a percentage of the final price. Even though the countries which are covered by this regional project are among those with the greatest relative burden on the final retail price, retail prices are still low in many in terms of international standards, and affordability has increased in some of the selected countries. The figure shows information on all the countries in the region, in accordance with the series developed by the WHO for 2016 (latest available data). In order to present the situation of the different countries and compare this information with that collected in the studies of this project, figure 2 incorporates the data from each study, and the reference year is included in brackets.

Secondly, figures 2 and 3 provide information on recent changes in the tax burden in Latin American and Caribbean countries. It can be seen that from 2008 to 2016 there were increases in the total tax burden on cigarette consumption and in prices in purchasing power parity dollars. Indeed, all 30 countries of the sample prepared for the American continent show price increases in purchasing power parity dollars and only in four of them (Barbados, Belize, Honduras and Trinidad and Tobago) is there a reduction in the total tax burden with respect to the retail price of the best-selling brand. Although the cut-off period of the aggregate information makes it impossible to appreciate the four-point reduction in the tax burden for Argentina as of 2018 and the increases in Colombia, Peru and Uruguay, this medium-term aggregate evolution is evidence that the region as a whole points to an increase in the price of tobacco products based on increases in the taxes levied on their consumption.

Thirdly, the region seems to have moved closer to the recommendations made in the FCTC about cigarette tax structures where specific and ad valorem components are combined. As shown in figure 5, the exceptions to this regularity are Brazil and Argentina. It should be noted that in the case of Argentina, the lack of specific taxation on tobacco is attributable to political economy factors that are clearly explained in the document by UNSAM's Centro IDeAS. In Brazil, a specific component in cigarette taxation was in force since 1999, with the ad valorem component gaining a share between 2008 and 2016. As in figure 2, information on the studies of this project is incorporated for the years indicated in brackets.

Figure 2.

Structure of taxes on cigarette consumption (% of the price of the best-selling brand, 2016)



With Respect to Weighted Average Price.

Argentina: Average retail price as of June 2018.

Ecuador (2018): Suggested annual average retail price 2018.

Brazil (2017): 2017 price of the leading brand “Derby” based on 2018 Euromonitor information.

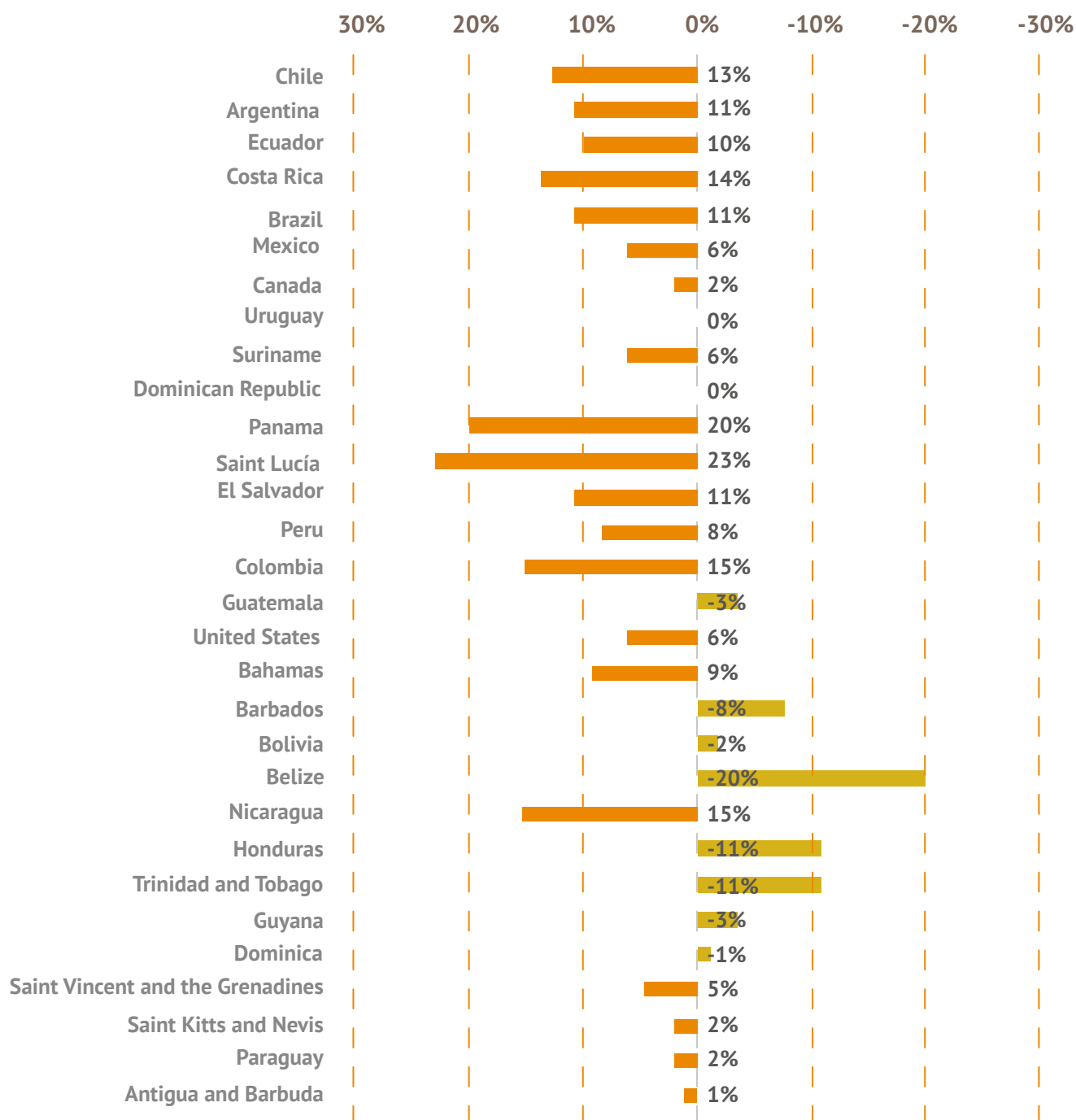
Mexico (2018): 2018 annual price according to Ethos methodology (2019) table 7.1.

Peru (2018): Weighted average price as of November 2018 of the three best-selling brands (Pall Mall, Hamilton, and Lucky Strike) according to information on average supermarket retail price of the best-selling brands (IEP, 2019 - Table 2).

Source: Devised by the author based on information from the project studies and the World Health Organization.

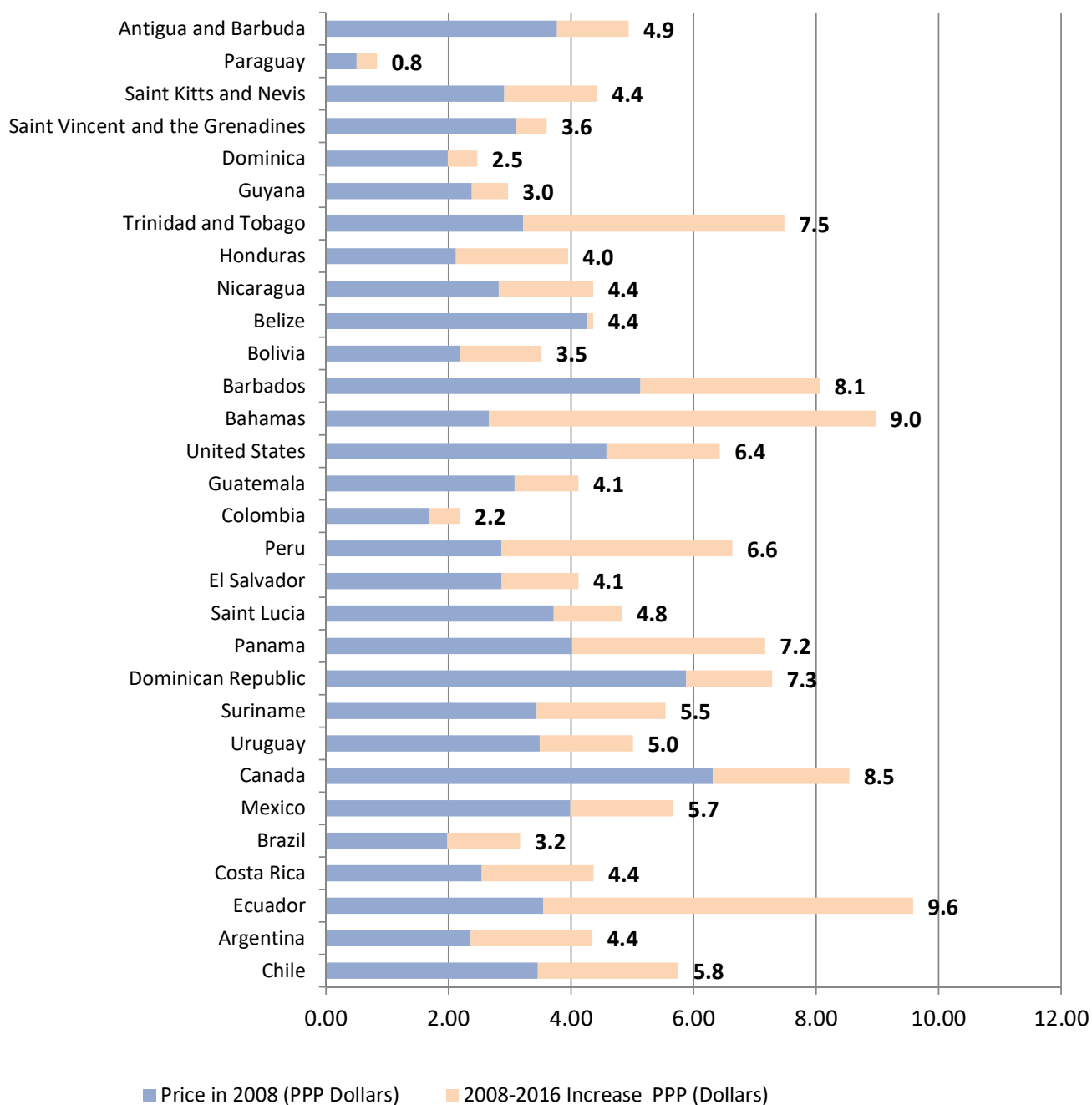
See <https://bit.ly/2QyaUzp> and case studies of the project.

Figure 3.
2008-2016 variation of total burden on cigarette consumption (% price of the best-selling brand)



Source: Devised by the author on the basis of information from the WHO. <https://bit.ly/2QyaUzp>

Figure 4.
2016 price and increase of the 20-cigarette pack since 2008 (PPP dollars)



Source: Devised by the author on the basis of information from the WHO. <https://bit.ly/2QyaUzp>

4.3. The situation of the countries studied in the project

Figure 5, in turn, serves as an introduction to a description of the situation of the countries studied in this project. This figure shows the variations in the percentages of the retail price of tobacco attributable to the burden applied between the ends of the observation period. This helps to identify changes in the tax structure for all the countries in the sample. The main changes in direction recommended by the FCTC are observed in Ecuador, Mexico and Peru, as Brazil had had a specific component since 1999, while Argentina taxes cigarettes mostly on an ad valorem basis.

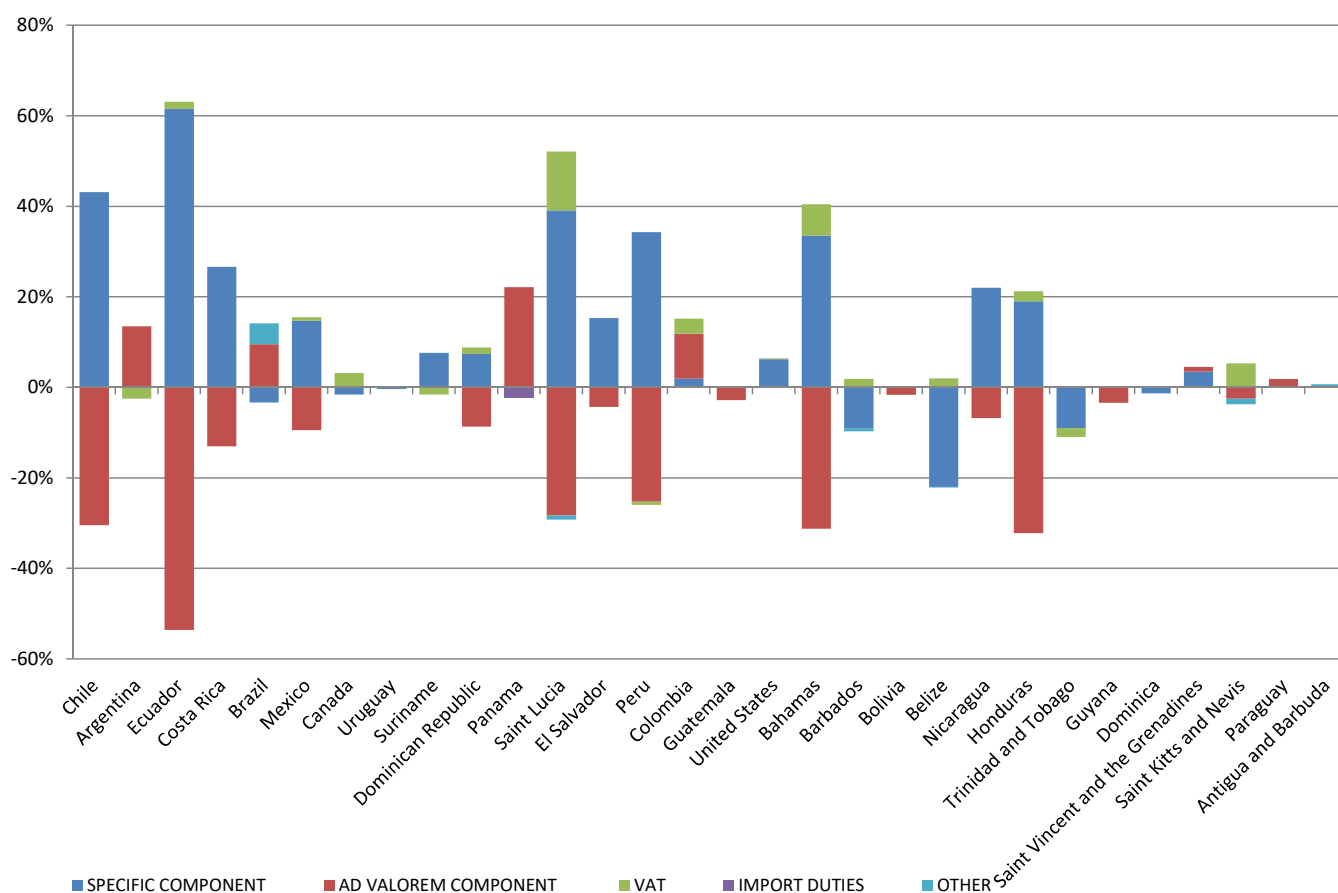
In the case of Ecuador, the change towards specific taxation occurred in 2012, when the 150% ad valorem rate for cigarettes that had been in force since 2007 was abandoned and replaced with a specific value of USD 0.08 per cigarette, which increased gradually in real values until it reached USD 0.16 as of May 2016, with an inflation adjustment clause since 2017.³⁰ That very study shows a growing but accelerated tax policy: in the first five years the tariff was increased every six months, until in 2017 it reached an increase of close to 100% in the rate of this SCT on cigarettes. Although the burden between 2011 and 2012 was similar in terms of the price of cigarettes (64%), an increase was observed in the latter of approximately 21% as a result

of its implementation. *Pontificia Universidad Católica del Ecuador* (PUCE) describes how the progressive increase in burden made it possible to reach a level above the retail price of more than 73% in the first half of 2015. The reduction observed since then did not result from decreases in the value of the specific tax, but as a consequence of the momentary increase in VAT from 12% to 14%, introduced to partially fund the rebuilding and reactivation of the areas affected by the 2016 earthquake. The subsequent business strategy involving the in-excess transfer of the increases in costs to the prices of the products meant that packs of cigarettes reached the highest values in the region, as measured through purchasing power parity.

In the case of Mexico, it is not actually a substitution. In fact, the effect of the fall in the percentage of ad valorem taxes appears as a consequence of the addition in 2010 of a specific portion of 4 cents of Mexican currency that increased nine times in absolute value the following year, remaining unchanged to date. At present, the special tax on tobacco is made up of 160% ad valorem rate on the net retail price of VAT (whose rate is 16%) plus 35 Mexican cents per cigarette. As a result, the total burden in 2018 on the retail price of a pack of 20 cigarettes is as much as 67%, with 39.6 percentage points accounted for by the ad valorem tax, another 13.4 points are added as a specific component; and finally VAT completes the burden on consumption with 13.8% of the total.

30. However, it should be noted that the previous ad valorem treatment persists for tobacco substitute products, whose sale is marginal within the country.

Figure 5. 2008-2016 variation of the tax structure on cigarette consumption (% price of the best-selling brand)



With respect to Weighted Average Price (WAP)

Argentina: Average retail price as of June 2018.

Ecuador (2018): Suggested annual average retail price 2018.

Brazil (2017): 2017 price of the leading brand “Derby” based on 2018 Euromonitor information.

Mexico (2018): 2018 annual price according to Ethos methodology (2019) table 7.1.

Peru (2018): Weighted average price as of November 2018 of the three best-selling brands (Pall Mall, Hamilton, and Lucky Strike) according to information on average supermarket retail price of the best-selling brands (IEP, 2019 - Table 2).

Source: Devised by the author based on information from the project studies and the World Health Organization.

See <https://bit.ly/2QyaUzp> and case studies of the project.

Finally, in the case of Peru, since 2010, the tax indirect structure has been the General Sales Tax (GST), plus a Special Consumption Tax (SCT). In the case of tobacco, it was set at 7 cents of the Peruvian currency at that time. It was increased by 11 cents in May 2016 and again in May 2018 – 50% more - to 27 cents. This makes it possible to estimate a tax burden on the weighted average of packs of cigarettes of approximately 57%,³¹ made up of 15 points of general sales tax and 42.1 points of the SCT since May 2018.³² The report of the Institute for Peruvian Studies (IEP) indicates that after the substitution of the specific component, the tax increases were fully transferred to the final prices of cigarettes, with cases of overshifting close to 20% in 2010 and 2016, and at the time of closing the research, a possible overshift could not be ruled out for 2018.

Analyzing the case of Brazil³³ is an extremely complex exercise, because although there have been no major reforms in recent times, there is a widely distributed burden within its tax federalism that – if one looks at the highest rates of its State VAT (State Tax on Circulation of Goods and Services, ICMS) and its 2% municipal surcharge, allocated to fighting poverty – can reach an effective rate of 78% of the retail price of the best-selling category in Brasilia, in contrast with 10 percentage points lower in the state of Rio Grande do

Sul. On the other hand, at the federal level, four other taxes are applied at the beginning of the production chain (on the price upon leaving the factory or the price related to imports), in addition to the application of a minimum price as of 2011, which must be high enough to accommodate all costs (production and marketing), taxes and a minimum profit margin of legal producers.³⁴ The taxes applied at the federal level are made up of the excise tax on industrialized products (IPI); the Tax for the funding of the Social Integration Programme (PIS); the Contribution for the funding of Social Security (COFINS); and import duties, the IPI being the main excise tax that establishes differential taxation for tobacco products.

This excise tax started adding the specific component in 1999, at an effective ad valorem rate of 41.25%. This specific rate increased progressively until November 2011, when the scheme was reformed and the current structure of the tax was defined.

Since December 2011, two cigarette IPI taxation rules have coexisted. The general rule is ad valorem taxation with an effective tax rate of 45% (as a result of the existing 300% rate on a calculation basis of 15% of the retail price). Alternatively, there is the option of the special rule, made up of the sum of two rates, a nominal ad valorem rate (on the same

31. It should be noted that the increase shown in the foregoing charts may be inaccurate inasmuch as there are great differences between the price of the best-selling brand and the price obtained as a weighted average.

32. Due to the specific nature of the tax, this weighted average shows wide variance depending on the retail prices observed in the different brands. For instance, for the brand PallMall, with a price of S/ 10 per pack, the specific tax is as much as 54% of the price, and the total burden is 69%, while in the case of Lucky, the values are 33.8 and 48.8%, respectively.

33. FUNCEX (2019).

34. Secretaria da Receita Federal do Brasil (SRFB) and Law 12546 of 2011.

calculation basis observed in the general rule) and a specific rate that until 2015 differentiated amounts depending on whether the cigarettes were contained in a pack or presented in the box format. Both the ad valorem rate and the specific rate of the optional scheme have increased progressively since its creation and have now reached 66.7% (10% effective) and R \$ 1.50 since December 2016. The research conducted by FUNCEX (2019) reveals that all of the producers choose the special rule, because it makes it possible to take a greater proportion of the price increases.

Finally, the case of Argentina presents a scheme with multiple ad valorem excise taxes on tobacco products, various specific allocations and overlaps of taxable incomes which form a complex framework for the political economy of the tobacco taxation system. This topic has been discussed extensively in the specific activities of the project³⁵ and in the corresponding section of this report. This set of taxes has four components: the Additional Emergency Tax (IAE), whose 7% rate is directly applied to the retail price without allowing deductions from the other taxes; VAT, whose general rate is 21% of the net retail price of the amount paid for the other three taxes; the FET, which is composed of an ad valorem rate of 8.35% of the retail price and makes it possible to deduct the Additional Emergency Tax and VAT, but not the Internal Tax (II), plus a specific FET component proportionally

adjustable since 2010; and finally, the Internal Tax, calculated with a rate within³⁶ 70% of the retail price, which makes it possible to deduct all the other taxes from its base. As explained in the ITDT document, there have been two amendments to the Internal Tax since early 2016. In May 2016, the rate was increased from 60% (150% effective) to 75% (300% effective) until December 2017, which raised the total burden on cigarettes from 68.5% to 80%. However, a second reform came into force in 2018 that reduced the rate of Internal Tax (233%) to 70% and incorporated an alternative specific component through a minimum tax of 28 pesos per pack of 20 cigarettes adjusted for inflation every three months. However, the latter modification was only partially implemented because different court actions allowed some packs of 20 cigarettes to be sold below the minimum tax.³⁷ However, the modification to the ad valorem component from 75% to 70% reduced the total burden on the average retail price of cigarettes to 76% as of 2018. The study carried out by ITDT found that the increase in the ad valorem tax of May 2016 had an immediate impact of around 50% on the average price, although this increase lessened in real terms before the next reform of December 2017. As the minimum tax reform could not be fully implemented, no convergence is observed in the evolution of the price gaps between expensive and cheap brands.

35. ITDT (2019) and iDeAS - UNSAM (2019).

36. *Rate within* means that a nominal rate of 70% turns into an effective rate of 233% through the following formula: $EFFECTIVE\ RATE = (100 \times t) / (100 - t)$, with “t” being the legal or nominal rate of the tax.

37. In regard to the brands that secured court protection as of 2018, it should be noted that as a result of the measure they are not affected by all of the reform, but only by the previous ad valorem rate of 60%, so they are benefited by both the application of the minimum price and the increase in the internal tax rate.

4.4. The revenue space in the countries studied

From the perspective of revenue, the sensitivity of the consumer's demand to taxes is decisive for tax policies as it will reduce the tax base and limit revenue from tobacco taxes. As these are products that usually show little price elasticity of demand, excise taxes on tobacco are common in most countries. This is not only for the benefit in preserving people's health or the acquisition of correct information, but also for economic reasons. In addition to the price elasticity of demand, the revenue potential also depends on the tax share of the price. The higher the tax share, the less elastic the product can be before revenue will begin to decline. From a certain point, tax increases (reflected on retail prices) will reduce revenues (Blecher, 2018). Thus, a "critical elasticity" where the total value will be lower than the participation of the total tax on the price is established.³⁸ Thus, even with relatively elastic demand, if the tax share of the price is low, as is the case in many countries, tax increases will still generate revenue increases. For example, in the case of Argentina – where in December 2017 the tax share in the retail price was 80%, tax increases transferred to prices resulted in more revenue, as long as the price elasticity of the demand for tobacco was lower than -1.25. However, this turning point in revenue collection can hardly be identified for its direct use in the determination of policies, inasmuch as elasticities are only established empirically and are valid for the real range of previous

prices, but not for all possible prices. Hence, the recommendation is gradual and progressive implementation of increases when the objective is revenue collection (IMF, 2016). Ultimately, as long as taxes are far from the suggested threshold, countries may go down a win-win political path towards the effective removal of unhealthy consumption. In this case, the reduced tax revenue would be an implied and accepted consequence. This seems to be the status in the region. The study carried out by Goodchild *et al.* (2017) concludes that in Latin American and Caribbean countries there is fiscal room for an increase in tobacco taxes and additional revenue. On the basis of a cigarette market model with 2014 data in 31 countries, and using estimates of demand price elasticity in 12 countries as inputs, it is estimated that a 50% increase in excise taxes would raise cigarette prices by 28% on average, diminish sales by 7%, and increase tax revenue by 32%. This study points out that in all the sampled countries there is an increase in resources following the simulated tax increase. Of particular significance is the expected revenue increase of over 40% for the Bahamas, Argentina and Mexico. These results are confirmed in the Red Sur project studies for the latter two countries.

Indeed, in the case of Argentina, Rodríguez-Iglesias *et al.* (2017) found that the May 2016 amendment, which increased the total burden on consumption from 68% to 80%, effectively increased the tax revenue. Their simulations indicate that this increase in collection would reach 82.5% for a total inflection burden of 87% of the retail price. In line with this amendment, the ITDT document (2019) points out

38. Crawford and Tanner (1995).


that a 20% increase in the internal tax rate would represent a USD 417-570 million increase at the two ends of elasticities equivalent to two standard deviations from the long-term estimate.

Likewise, the study for Peru carried out by IEP runs simulations for extreme values of the confidence interval of 95%, but on the basis of a strategy that gradually increases the specific tax to 5% annually (two points higher than the decade's average inflation) until a burden higher than 70% in 2030 is obtained, in line with WHO recommendations. The scenarios are then defined by the tobacco industry's transfer to prices in three simulated cases: total transfer to prices; 15% overshift and constant gross income from total sales throughout the simulated period. The results for estimated elasticity values, even in the case of more limited transfer to prices, are 35.8% price increases and an 11.7% reduction in consumed amount, with total tax burden reaching 74.8% and revenue increasing by 48.9%.

Mexico has not updated the specific tax component since 2011 (160% of the manufacturer's price plus \$ 0.35 Mexican pesos per cigarette) because at the time of reform, no adjustment mechanisms were established. The commitment was extended through the Tax Certainty Agreement from 2014, as indicated by the document produced by ETHOS as part of this project. This document indicates that if the specific component of the tax had been updated, the total burden for the consumer would have been two percentage points higher than the estimate for 2018, close to 69%. As a result, and based on

a reduced tax burden and its relative lag, the CIAD and ETHOS research projects coordinated the gradual correction scenarios for 2022. It was pointed out that there is plenty of room to increase the tax burden on retail prices, reduce consumption, and increase revenue in real terms. Even if the purchasing power parity price was aligned with those of the world's most developed economies (which would mean more than doubling that of 2018), revenue would increase by 45% and consumption of cigarette packs would fall by 44% as a result of increasing the tax burden to 79.8% of the retail price.

Finally, Ecuador's situation is emblematic, as even though the final price of cigarettes is not heavily affected by taxes, it has the highest pack price in the sample in figure 4, with a 170% increase in purchasing power parity since 2008. As a matter of fact, the report by PUCE (2019) indicates that during the gradual reform that doubled the excise tax between 2011 and 2016, there was a fall in revenue in 2016 and 2017. However, regarding the objectives of reducing consumption, preliminary simulations indicate that if the specific tax rate as the share of the price per unit increases to 69% (from the current US\$ 0.16 to US\$ 0.27 tax per stick), the consumption decreases to about 12 million cigarettes (from 8.8% to 1.9%).



**5.
Impact of taxes
on the prices
and consumption
of tobacco
products**

The economic effects of an increase on the indirect consumption tax of a certain product depend on the supply and demand elasticity prices of that product. As for the impact on cigarette and tobacco consumption, the elasticity of demand plays a key role as experience indicates that the supply of this type of products has high flexibility during market price fluctuations. As analysis of the impact of tax changes on these markets indicates that the specific tax burden on tobacco will be mostly borne by the consumers.

The value of price elasticity affects mostly two areas related to cigarette and tobacco market. First, the consumption's degree of rigidity is a key element when determining the consequences that tax changes have over the revenue. When price elasticity is lower than the unit (the total value), tax increases produce an increment on the total revenue. However, it is not as proportionate as the contraction produced by the price increase over the quantity consumed. Secondly, the stricter the demand, less effective is the tax policy over tobacco consumption. If there was no price elasticity, the tax tool would lose its effect of discouraging tobacco consumption, although it would produce more benefits for the tax authority. Thus, when demand is extremely inflexible, tax increases do not manage to reduce the consumption of an unhealthy product.

The values of price elasticity of the demand for tobacco in the studies conducted in this research project have used two different methodological approaches. In the studies carried out for Mexico (CIAD) and Ecuador (PUCE) estimates were made based on the

analysis of data from a household income and expenditure survey. In the case of Ecuador, the estimates were made by applying the methodology suggested by Deaton (1988) and Deaton and Muellbauer (1993). On the other hand, studies carried out for Argentina (ITDT), Brazil (FUNCEX), Ecuador (PUCE) and Peru (IEP) provided estimates based on the modelling of time series using econometric techniques of multivariate integration developed by Engle and Granger (1987) and by Johansen (1991).

The estimates for Mexico were based on the tobacco consumption data from the National Survey of Household Incomes and Expenditures (ENIGH) in 2016. Price elasticity of demand for the population is 0.457. This estimate is in line with previous studies carried out for Mexico. For Ecuador, the estimates were made with data from National Survey of Urban and Rural Household Income and Expenditures (ENIGHUR) 2011-2012, which contains information from a sample of 39,617 households. Although the specific estimate for this scenario had the expected sign, the estimated value of price elasticity was not statistically different from zero. This result provides evidence in favour of the hypothesis of a greater inflexibility of the demand for cigarettes and tobacco in Mexico.

The Argentina study provides tobacco demand estimates based on the monthly data from January 2015 and June 2018. The specific estimate of the price elasticity of tobacco long-term demand was -0.44. Similar results were gathered in Peru, the price elasticity of long-term demand for tobacco was -0.398. This value comes from model estimates based on quarterly data on apparent consumption from 1993 and 2017.

The results of the study carried out by FUNCEX for Brazil indicate that long-term price elasticity of tobacco demand is between -0.50 and -0.75, depending on the model specification of estimates. The estimates were made with monthly data from 2000 and 2018. Information regarding some government actions aimed at modifying tobacco retail prices have had major statistic results over demand were provided by this study. Specifically, the actions that had a greater effect over consumption levels were tax measures and the setting of minimum prices.

In the study for Ecuador estimates were made based on a methodological view similar to the one used for Argentina: monthly data for the period January 2012 and December 2017. Long-term price elasticity estimate was of -1.96. This estimate differs from the one used by authors using cross section data. As a matter of fact, it is an atypical value if compared to most of the estimates available on this subject. This result should be regarded with caution due to the reduced amount of data used in the estimates (72 studies), and the difficulties authors had to undergo to establish some series used in the economic estimates.

The estimates of price elasticity of demand used in local studies indicate that short-term effects of tax increments over consumption are quantitatively more important than long-term effects. This means that although the greatest tobacco consumption reduction on the initial stages of tax increases tends to moderate throughout time, this type of result can be expected, at last partially due to industry strategies, for example with the accumulation of products. The information

available indicates that when tax increases are applied, consumers reduce the intake amount. However, immediate effects are more relevant than long-term effects.

The estimates of short-term dynamics in Peru indicate a price increase of 1% that would produce an immediate consumption shrinkage of -0.70% for the next quarter. The study for Argentina provides evidence regarding the price increments registered after the tax rates increased the total value of short-term price elasticity of demand from -0.911 to -1.38. However, authors noticed different results on more expensive or cheaper cigarette brands sold in the Argentinean market. The intake of more expensive brands shows a reaction towards real price variation of the product almost six times higher than for cheaper brands. The greater demand rigidity of cheaper brands is regarded as characteristic consumption behaviour in Argentina. It should be noted that the cigarette market in this country is directed to premium brands rather than more cheaper brands that represent a smaller fraction in the market.

It is noticeable that most of the estimates made in this research agree that the price elasticity of demand is lower than the unit, and the value of this parameter is between -0.40 and -0.50, which means that a 10% increase in the retail price of tobacco would be reflected in a 4-5% reduction in the amount consumed. With these elasticity values the tax increase would be consistent with an increase in total tax revenue.

These estimates on elasticity of price demand are similar to the ones of a report by the International Agency for Research on Cancer

(2011), where more than 100 econometric studies are compiled. In this report major evidence regarding the relationship between the amount of tobacco consumed and the level of indirect imposition is provided. The report concludes that a 50% increase of tobacco's relative price causes an average 20% reduction of the quantity consumed (this is an elasticity of -0.4). The studies included in the report indicate that this relationship takes place in high income countries as well as those with middle and lower incomes (Jha *et al.*, 2014).

The distributive effects of the increase on the indirect imposition over tobacco use have been deeply analysed in this study for Mexico. The tobacco demand estimates correspond to different income strata clarify the different usage reactions towards tobacco prices. The heterogeneity observed in the price elasticity among the different deciles of the population was statistically significant although, from the quantitative perspective, the estimates did not show any significant differences. The estimates indicate that consumption in lower income strata is based, on a lower measure than in higher strata, to retail price.

CIAD's study indicates that among the reform scenarios considered, the specific tax tends used to be regressive as lower income earners that keep smoking after the tax increase cannot substitute for cheaper cigarettes. Also, special taxes (ad valorem and specific) and VAT tend to be less regressive (richer people, even if they reduce their usage, keep buying more expensive). However, it should be noted that CIAD's investigation only considers the effect over smokers that keep smoking after tax increase, they do not regard the effects over those that quit smoking.

The analysis of the distributive effects on different reform scenarios for Mexico indicates that the higher contribution to tax collection would come from smokers in the higher income strata, who would reduce consumption levels. Particularly, the scenario that foresees a higher tax increase, the higher income decile would register a reduction close to 23%, and would contribute about 15% to the increase of the collection. The fact that tax amendments produce a higher collection on higher income strata promotes the possibility of financing progressive high impact programmes and initiatives that could compensate lower income consumers who continue to smoke after the tax increase.

From a different methodological perspective, the study carried out in Argentina provides indirect evidence to analyse the distributive consequences that the increase on tobacco taxes policy had in this country during the last years. Particularly, authors carry out price elasticity estimates for cigarettes regarding more expensive and cheaper brands. Although price elasticity is lower in more expensive cigarettes, the results of the estimates indicate in both circumstances a higher demand rigidity. However, it should be noted that 2017 tax increase was not completely applied to the tobacco industry; it was not applied by companies that produce cheaper brands.

The expected effects of a more aggressive tax increment policy over tobacco depend on the price elasticity of demand in tax changes. In none of the local studies carried out for this research explicit statistical contrasts have been made. More research in this line is needed.



6. Other policies for reducing tobacco consumption

Even tough tobacco taxation – as noted above – can be regarded as one of the most effective policies to reach the objective of tobacco consumption, its effectiveness can be increased if other policies are applied simultaneously. As a matter of fact, the price elasticity of demand should be interpreted with this relationship in mind, mainly when assessing the effect of increases in tobacco taxation on consumption.

Every case study in this project shows that the countries have come a long way in this area. Over the last decades Argentina developed a comprehensive policy regarding the control and prevention of the demand for cigarettes. This includes, among other measures, restrictions of smoking areas in public spaces, information on health damages and restrictions on advertisements (IDeAS-UNSAM). Regarding Brazil, several projects carried out by the Foundation for Foreign Trade Studies Centre (FUNCEX) took place. In Ecuador a variety of non-tax measures by the Organic Law on Tobacco Control and Regulation, which include the generation of smoke-free areas, tobacco sales ban to children, images depicting tobaccos' hazardous effect and advertising restrictions (PUCE).

The most thoroughly studied case may be that of Mexico (ETHOS and CIAD). Even though the country had strategies and programmes in force since 1980 and 1990 to reduce tobacco use, the WHO promoted a tobacco control policy. The implementation of the established measures was gradual, as was the case with most countries in the region

(but some of them with more comprehensive policies). First, the so-called General Law for Tobacco Control (GLTC) was enacted in 2008. This law was designed to reflect what had been agreed at the FCTC. The GLTC establishes provisions over the harmful effects of tobacco usage. It also established smoke-free areas in several public spaces. The Law also developed on the measures to be carried out to prevent the illegal production and trade of these products, as well as the prohibition of their promotion, advertisement and sponsorship, among others. A National Office of Tobacco Control was created to sustain and permanently strengthen the actions carried out by the federate government to develop, apply and strengthen public policies on tobacco control all over the country.

Regarding health institutions, the Department of Health is in charge of issuing and monitoring the enforcement of Official Mexican Regulation³⁹ for the prevention, treatment and control of addictions, which covers tobacco. The objective of this regulation is to establish criteria and proceedings for the comprehensive care of addictions. It establishes ways in which health care providers should carry out several activities: prevention, treatment, rehabilitation and social reintegration, damage reduction, research, education and training; or addiction control. It also includes the National Committee against Addictions which handles the domestic policies on research, prevention, training and development of human resources for addiction control.

39. "The Official Mexican Regulations (OMR) are general rulings of a technical nature issued by agencies of the federal public administration. Its objective is the establishment of rulings, instructions, guidelines and characteristics that can be applied to a product, process or service." More information on OMRs at <https://bit.ly/2FcMOPr>



7. Tobacco production and productive restructuring

So far, policies aiming to reduce the demand for tobacco have been addressed. However, a policy that expects to increase the effectiveness of the fight against tobacco also needs policies aiming to reduce the supply. There are major differences in the region between countries producing tobacco and tobacco products (which may also become exporters) and those that depend on imports. This involves different kinds of policies on fighting tobacco consumption while remembering that the objective is the reduction of tobacco use globally.

For countries that produce tobacco or its derivatives, policies to reduce consumption tend to face the additional challenge of productive restructuring of ventures that tend to be handled by small producers in low development areas and high vulnerability social conditions. Argentina and Brazil are examples of this situation.

There, based on the iDeAS-UNSAM presentation, the first stage (primary production) is implemented in a rural setting and requires intensive labour for diverse tasks such as soil preparation, development of seedbeds, transplant, flower removal, harvesting, setting, drying and watering, among other activities. Primary producers play a major role in this stage. It is them who buy the seeds, agrochemical, other basic goods and machines and hire the necessary labourers. Agreements with the stockpiling companies, which guarantee farmers the supply of inputs, technical assistance and other services by “advance payments.” These are later deducted from tobacco purchases. The collectors determine the good’s price based on its quality. 86% of this stage is located in

three provinces of low relative development (Misiones, Salta and Jujuy).

A large amount of the tobacco produced in Argentina is exported to different countries. The largest markets are China, Belgium, United States and Paraguay. Since 2012 tobacco become the third most exported product to China: Argentina is the fourth country to provide this good, behind Brazil, Zimbabwe and United States.

Exports are taken care of by dealers that market tobacco in different manufacturing degrees and play a major role in the market. Argentina’s situation is particular (and opposed to what is expected for the area) as it promotes the supply development through the tax to tobacco production.

In accordance with the document mentioned before, not much has been done in the last decades to restrictively regulate the offer. The projects that aim to diversify or redirect the specification of regional economies involved have so far been exiguous or unsuccessful. On the other hand, those measures aiming to support and stimulate their growth are still up to date in the FET.

However, as it is noted in another item of this document, the Government has a major role in the operation of this process through the FET, which aids almost all the processes in the chain: tobacco producers, industrial sector, workers health care insurer providers, producer organizations and States of the producing provinces.

It should be noted that although this sector is just 0.65% of the industrial added value

(in accordance with estimates by the National Statistics and Censuses Institute, INDEC), the participation of the tobacco sector in the industrial production of northern provinces is much more representative (according to INDEC's 2014 GGP, it exceeds 11% in Salta and Jujuy).

Even though there are contributions of the FET to tobacco cooperatives that make investments in other farming activities, these were not part of a planned diversification policy or crop conversion. In iDeAs-UNSAM's study several experiences regarding crop conversion for countries like Brazil, Indonesia, India, Canada and Malawi have been gathered. Brazil's situation shows that even though local and state governments of tobacco regions do not tend to lead diversification of crop programmes, it is necessary to have the local authorities support to promote and merge the diversification efforts.

In fact, when analyzing the limitations and barriers for the diversification of production, the study highlights the existence of three elements, among which is the role of state and local governments in supporting and subsidizing activities related to the cultivation and processing of tobacco. The others are the role of integrated production systems that keep farmers financially dependent on multinational tobacco companies, and the high costs of growing tobacco, especially when compared to traditional food crops.

Even though the WHO Framework Convention on Tobacco Control urged the countries to design and impose policies on the supply-side of tobacco to support economically viable alternative activities for

tobacco growers and farmers, when analysing the fulfilment of the objectives that underpinned the creation of the FET, it is noted that far from contributing to crop diversification, it has been used to expand and consolidate tobacco production.

Although successful restructuring experiences in different countries show that the substitution of the tobacco production is possible from the technical point of view, and viable at the economic level, it is important to bear in mind that it is a necessarily long, gradual and complex process which should involve producers, seeking new partnership and recruitment modalities that may replace the incentives offered by the tobacco chain.

An altogether different problem affects the countries such as Peru that import tobacco and its products. Because a substantial share of international trade in these products is carried out under preferential conditions associated with different regional trade agreements, a policy objective that goes beyond the attributions of tax policies in each country is based on the need to eliminate unhealthy imports' preferences (tobacco and other unhealthy products) under ongoing preferential trade agreements.

Even though Ecuador imports some products, it also produces and even exports a minor portion of its production, even if it is not a significant area in its economy. In 2016, the gross value added produced by the manufactured tobacco industry represented less than 0.01% of GDP. The share of total Ecuadorian exports is minimal, less than 0.25%. However, without having the magnitude of the resources allocated in Argentina, there are also

resources of financial assistance for tobacco production through public banking.

A tax on cigarette exports introduced in Brazil in 1999 tackled the export and re-entry scheme. During the 1990s, Brazil had become Paraguay's main source of cigarette imports. A big share of the Brazilian cigarette exports, however, returned to Brazil. Exports didn't pay excise taxes, and when the cigarettes were reintroduced illegally, they avoided the Brazilian excise tax. This scheme, fueled by big tobacco, was disarmed with the introduction of the 150% export tax. Nowadays, there is a presumption of under-controlled and under-registered trade with Paraguay. The Funcex research showed that Brazil is an important supplier of intermediate goods to Paraguay. However, there is no record that it is in the market for final products from that country, so the situation is unclear and requires further study. Moreover, if one wants

to fully understand the situation of tobacco production and consumption in the region, especially the area included in Mercosur, it is necessary to study the Paraguayan tobacco complex more thoroughly.

FUNCEX's study recommends some policies that may have short-term application, some are a better control of the product, product commercialization and critical inputs; better border controls; deepening of studies aiming to understand the cigarettes production chain.

In short, strategies that seek to increase the effectiveness of tobacco tax policies should also focus on controlling illicit trade, replacing incentives for growing tobacco to alternative crops and eliminating unhealthy imports' preferences (tobacco and other unhealthy products) under ongoing preferential trade agreements.





8.
**Specific
allocation
of tax
revenue**

A usual debate in the discussions and projects to increase taxes on tobacco, which is reflected in several of the studies of this project, refers to the convenience of assigning a portion of the collection (or the entire amount produced by the proposed reform) to some specific destination. From the point of view of tax theory and taking into account the experience of the region in terms of allocations of public resources, allocations for specific purposes are only justified in very specific cases, to the extent that they generate greater rigidity in the management of public budgets and end up promoting inefficient allocations.⁴⁰

In this sense, the justification of specific assignments is very clear when it comes to complying with the so-called “benefit principle”. It consists of the existence of taxes destined to finance benefits that benefit those who contribute, the redistributive elements are defined within the benefit programs themselves insofar as distributive components are not considered. The clearest example refers to social security programs, although there are also examples associated with the taxation of fuels to finance road works. The other usual case where these allocations are justified is when they are part of the federal fiscal architecture or the allocation of extraordinary resources (Cetrángolo *et al.*, 2010).

In general, the rest of the specific tax allocations that are found in the countries of the region tend to be due to distributive bids within public policies, where different sectors

try to remain outside the budget constraint of adjustment policies. Many times they achieve this, but many times, if the allocations represent a value lower than the total expenditure in the function to which the resources are allocated, it is very likely that the budgetary authorities will end up replacing one resource with another without effectively increasing the expenses. This may be, precisely, the situation that characterizes in many cases the specific allocation of a part of the resources of taxes on tobacco.

Generally, the proposed destination is related to the care of health expenses that demand the treatment of the effects of tobacco, but it is not the only alternative that has been known. In relation to the more traditional discussion, the study carried out by PUCE highlights the fact that, in Ecuador, in addition to the need to improve the effectiveness of policies to reduce the demand for tobacco, there is still much work to be done to generate resources that allow covering public health expenses associated with their consumption.

In turn, in the ETHOS study, the cost of smoking for the health system in 2015 was estimated for Mexico, it represented 0.42% of GDP and 6.62% of annual health expenditure, mainly associated with the treatment of diseases and COPD, although the costs derived from the so-called passive smoking should also be considered. This estimate does not include the important expenses that families in Mexico must face for the treatment of diseases

40. For a reference to case studies on the impact of tax rigidity, see Cetrángolo and Jiménez (2010). There is an English version of the comparative study of Cetrángolo *et al.* (2010) with several examples of specific tax allocations, a typology of cases, a discussion of the suitability of each type, and additional bibliography.

associated with smoking. Consequently, this study recommends that “in line with some of the best international practices”, a portion of the resources collected through the tobacco tax be allocated to the prevention, cessation and treatment of smoking. However, given that health costs may exceed what has been collected, it is still necessary to continue allocating resources from the general public purse to this item. Beyond this type of proposals for allocating these resources to the health system, the CIAD study for Mexico incorporates the distributive concern, given the higher incidence of cigarette prices on lower-income sectors. In this sense, it is estimated that a possible tax increase to finance a subsidy for expenses, whether in milk or in a basic basket, would have a compensatory effect for smokers of lower economic capacity. Instead, it is noted that the allocation of the resource to a subsidy to supplement health expenditures will only compensate the smoking households in chronic poverty.

A special case of specific allocation, which originated when awareness of the effects of tobacco on health was much lower than the current one and, instead, concern for employment and regional development predominated, is the allocation of a portion of the tax on the development of tobacco production in Argentina. Although today seems absurd, this assignment has lasted to this day and is, perhaps, the most interesting case to discuss here (iDeAS - UNSAM).

Indeed, the FET is the main instrument of public policy that the State has applied to the tobacco sector, which has been in force for almost 50 years since, in 1967, a transitory fund was created (the Tobacco Technology Fund),

which was financed with an additional tax on each pack of cigarettes sold and replaced in 1972 by the FET, through which the activity has had a permanent subsidy up to the present. Its main purpose was to promote tobacco activity in the provinces of the north of the country by granting a subsidy to the production of tobacco to ensure fair remuneration to the producer. In addition, part of the funds are allocated to the social works of workers in the tobacco sector, playing an important role in the political economy of the reforms.

The FET is allocated among the tobacco provinces through two mechanisms. 80% constitutes a surcharge to the producers according to the amount of collected tobacco that is automatically transferred to each of the producing provinces, which distributed it in the form of a subsidy to the producers based on the tobacco placed in the market. The remaining 20% is destined to finance investment projects of the sector to address the critical economic and social problems of the tobacco areas, originated by the legal regime of land tenure with a predominance of smallholdings and, fundamentally, of smallholdings combined with the sharecropping system; it is also directed to the attention of tasks related to the improvement of the quality of tobacco production by various means, especially the obtaining, multiplication and distribution of selected seeds, and the increase of technology in all its aspects.

It should be considered that the distribution coefficients are defined annually by a commission composed of a representative of each of the producing provinces, which will be appointed by the chamber or association of producers of greater representation

in each province. Although various modifications were established in the modality of the allocation of resources, in order to make the scheme more rational, as indicated by iDeAS-UNSAM study, it turned out to be fundamentally a formality to frame transfers of FET resources within the commitments that the WTO agreement imposes on the country.

As additional information on the restrictions imposed by the FET on anti-smoking actions, it should be noted that one of the reasons put forward by the opponents of the ratification of the Framework Agreement is that it would cause a significant reduction in the income of the FET, which would leave small producers unprotected. However, as shown in the study, the distribution of the FET has not modified concentration in the sector, and has actually reinforced it.

It is possible to understand the reasons that justified the creation of this fund almost half a century ago, but it is difficult to understand how it is still valid. For this it is necessary to incorporate political elements that characterize this debate and, additionally, explain that, given that the resources of the FET depend on the internal consumption of cigarettes, there are different actors of the chain that have coinciding interests in avoiding the decrease in consumption (iDeAS - UNSAM). Among those who benefited from the existence of the FET and have some kind of veto power over its modification are the producers (who, obviously, increase their profitability); the governments of the seven tobacco provinces; the collectors (who are allowed to lower the price paid to producers); the cigarette manufacturing industry; unions of tobacco workers (who receive financing through plans

for social works); and other provincial economic activities linked directly or indirectly to tobacco production, which benefit from the dynamism of the activity. Given this particular configuration, the tobacco lobby has had a great capacity to hinder any discussion that could advance in a modification of the FET.

Besides, it is important to bear in mind that there are crops that could compete with tobacco from a technical, productive or even profitable point of view. However, there is none that can do so in terms of the market and the value chain; In the case of tobacco activity, the crops are organized around a public policy instrument as powerful as the FET, which regulates the relationships between the different actors in the sector, and which is a unique case in the Argentinian agro-industrial system (iDeAS - UNSAM, 2019). This points to the need for a thorough rethink of this specific allocation scheme, which is not easy due to the political economy issues of this reform, as we will see in the following section.

In short, there are strong political arguments that explain the difficulty in modifying the allocation of the tax to the FET, and its reform should be a priority in the debate on reducing consumption in Argentina. Similarly, and returning to the topics discussed at the beginning of this section, there are also political reasons that can give a justification to the allocation of the tax on health or social spending, in general. Even if there are no clear technical reasons to justify it, the assignment to these destinations may be a way to facilitate the parliamentary process of some tax increases, even if the resources do not translate effectively into greater financing for health.



9. Political economy of the sector and reforms

The addictive nature and harmful consequences to the population's health that tobacco has deserve an increasing attention from governments, which resort to a wide range of policy instruments to reduce the consumption of cigarettes and tobacco. Among the various instruments of economic policy, tax interventions are effective and efficient mechanisms to influence the formation of the prices of goods and services and, therefore, have the capacity to cause changes in the forms of production and patterns of consumption.

The tax reform aimed at reducing the consumption of cigarettes and tobacco can be considered as a particular case of the use of indirect taxes based on health motivations. The main consideration of the reform to be considered is the increase in taxation, with the consequent increase in retail prices, in order to reduce consumption of cigarettes and tobacco. Given the estimated values of the price elasticity of demand in the national studies carried out in the framework of this research project, the reform should materialize in significant increases in the tax burden that result in considerable increases in the relative price of these products, if they are intended to achieve considerable reductions in consumption.

Generally speaking, tax innovations involve political decisions that are adopted in a context in which the main economic actors and interest groups of society are mobilized so that their positions are considered by the political leaders. In all cases, tax reforms generate winners and losers, so they involve varied and complex dimensions of political economy. When tax innovations are

motivated by health, the problems of political economy acquire differentiated features that should be taken into account from the beginning of the reform projects.

The available information indicates that tax reforms, aiming to partially or completely modify the tax system, must face actions and reactions from sectors that consider that their interests are being affected as a result of reform initiatives. The actions of economic groups that oppose the reform may question the feasibility of the changes that are intended to be made. This action is facilitated if the beneficiaries of the change are atomized. It is therefore key the representation of these by the ministries of health. There are few experiences in which tax innovations are passively accepted by the sectors that will have to bear the weight of the new tax burden.

In general, tax reforms directly affect producers and marketers, which are often of great economic dimension. The opposition to the reforms involves, therefore, powerful business stakeholders who intend to influence political decisions. Note that in the countries analyzed in this research, taxes on the consumption of cigarettes and tobacco are national taxes whose modification requires intervention by the Legislative branch. The parliamentary treatment of a tax reform becomes an appropriate field for the affected business sectors to act and express themselves. The level of formality and transparency with which pressure groups act is an aspect that grants specific characteristics to the political economy of tax reforms. The cases of Argentina and Mexico appear as a faithful reflection of this game. In the first case, the complex network of taxes with specific allocation is the product

of various parliamentary discussions, in which economic and regional interests appear very present. The interested parties were effective as they managed to get only the increases on the Internal Tax component approved by Congress, as it is the only one that does not reduce the collection of the FET, and consequently, subsidies on production. In the second case, the tax modifications in the Mexican specific tax were made without establishing an automatic adjustment mechanism for inflation, which as of 2014 was made explicit through the Tax Accuracy Agreement, determining the loss of the real value of the tax.

National tax systems reflect the economic and political situations of a country and are determined by them. There is a kind of independence between political, economic and social structures of a country and their tax reality. The understanding of how these interactions happen are key in outlining the reformation proposals meant to be established.

It should also be noted that the reason for establishing tax reforms in Latin America goes beyond a possible economic contribution of taxes to reducing consumption of unhealthy products such as tobacco and cigarettes. It is also unlikely that this reform will manage to improve the political situation on the basis of health benefits alone.

The noticeable disparities in tax pressure observed in the countries analyzed, together with the regressive nature of the tax systems and the distortions caused by some of the tax instruments widely used in the region, determine particular political economy contexts that must be taken into account when analyzing the feasibility of reform initiatives. In fact,

the national cases analyzed in this project can be considered as extreme situations in terms of fiscal pressure. Argentina and Brazil are the two countries with the highest fiscal pressure in Latin America, while Ecuador, Mexico and Peru are among the countries in the region that have lower levels of tax burden.

An argument usually used by those who oppose increasing the taxation of tobacco is the possible regressive nature of the measure. Since lower-income households tend to allocate a greater proportion of their spending to tobacco consumption, the increase in their taxation could be considered, at first sight, as a regressive policy, assuming that consumption patterns do not change with the increase in indirect taxation and ignoring, therefore, the priority objective pursued with the measure, which is to reduce the levels of consumption of products harmful to the health of the population. The recommendations incorporated in Article 6 of the FCTC mention that, given that low- and middle-income population groups are more receptive to increases in taxes and prices, consumption and prevalence are reduced in these groups in larger magnitudes than in the higher income groups, resulting in a reduction of inequalities in health and poverty related to tobacco use. For this reason, and in order to enrich the debate, it is important to have credible estimates of the sensitivity of tobacco consumption to variations in prices in different strata of the population. This would help to quantify the impact of the tax burden on households, to which should be added the reduction of expenditures destined for health and the improvement in income attributable to lower absenteeism in the workplace.

The analysis of the political economy of the proposed tax reform requires the identification of the perspectives and motivations of the main stakeholders that would necessarily be involved in the process of finalizing the reform initiative. In this case, the document developed by iDeAS - UNSAM, which describes in detail the intricate political processes and the multiplicity of stakeholders and mechanisms involved in the allocation of a portion of revenue to the FET in Argentina, is very enlightening. The signing of revenue agreements between the Executive and the tobacco industry – as described in the experiences of Argentina (iDeAS - UNSAM) and Mexico (ETHOS) – can also be cited as an example of pressures in the sector that precluded the possibilities of reforms at different times.

The position of the Executive is key to advancing the process of change. A substantial increase in indirect taxation on cigarette and tobacco consumption can hardly be achieved without an initiative from the Executive and without the parliamentary representatives perceiving the proposed project as a political priority for the government. In this context, and in the case of a tax initiative with health motivations, it is important to ensure the compatibility of interests between the Health and Finance Ministries. It seems obvious that the perspective of the ministries of Health should definitely be favourable to the initiative, and political support should be given.

From the political economy point of view, there are issues related to fiscal federalism that must also be considered as they take on special significance when the provision and funding of public health services are in the hands of provincial or local governments (such as the case

of Argentina). In these cases, since the collection of the tax is usually in the responsibility of central governments, reconciling interests can be more complex. To ensure progress in the reform, mechanisms should be carefully defined for co-participation in the collection of the new tax or the increase of the existing tax, and, if necessary, a specific distribution rule should be established. The development of the co-participation scheme should take account of the way in which the different local governments are being affected by the implementation of the initiative.

It is also important that the movement in favour of the reform initiative be accompanied by an aggressive awareness campaign on the effects of cigarette and tobacco consumption and the adoption of other measures that complement the tax increase. Indeed, the reduction of tobacco consumption involves the use of multiple tools. The regulations that limit the consumption of cigarettes and tobacco in public spaces, the ban on smoking in educational centres and workplaces, the policies of product labelling, the limitations on the use of advertising on television and in public spaces, have proven to be useful tools to reduce consumption.

If health policy makers do not introduce any measures apart from tax increases, the parliamentary stakeholders may perceive a half-hearted commitment to the initiative on the part of the Ministry of Health. If this happened, doubts would arise about the priority of the project from the point of view of health objectives and the initiative would be discussed in Parliament, exclusively from the fiscal point of view, which could jeopardize the approval of the project.

The Finance Ministries will take a stand on the reform project, analyzing the economic and fiscal repercussions of the initiative. In principle, with the relative rigidity observed in the demands for cigarettes and tobacco, it seems evident that the increase in specific taxation should cause an increase in revenue from these items. However, the tax collection efficiency of the measure would depend on tax evasion in the production and sale of these products not increasing. The adoption of measures to improve control over these activities and the greater enforcement of corporate tax obligations in the sector appear as fundamental measures to ensure that the increase in taxation on tobacco consumption will actually generate more resources for public finances.

The effectiveness of the use of indirect taxes on the consumption of cigarettes and tobacco may depend on the effectiveness of customs controls. The weakness of these controls can be used by opponents of the reform, generating skepticism about the final effects of tax increases. This is particularly relevant in countries where there is no tobacco growing and in countries that border on others that produce raw materials at low costs. In this sense, both the experiences of Brazil, in its relationship with Paraguay, and Ecuador, invite us to investigate more in the possible illicit relationships within the productive chains.

The Legislature is a key stakeholder in the reform process, as it must give legal support to the tax increase. Although they belong to the government party, parliamentarians have their own interests and, in many cases, differentiated from the Executive. Again,

issues related to federalism and the unequal economic development of the territories of each country appear here. The representatives of the states where tobacco is produced may very well oppose measures that limit their consumption if they do not have sufficient compensatory programs. Otherwise, there will be a strong tendency to converge in their positions with those of the industry. Indeed, the work of iDeAS - UNSAM reveals for Argentina the strong influence that the five tobacco provinces manage to exercise in the National Senate, to maintain a status quo carefully shaped for decades.

Furthermore, it should be considered that parliamentary representatives are exposed to the pressure of sectors mobilized in favour and against the reform. Among the various groups that will surely mobilize against the reform are the tobacco companies, which in several countries of the region are important contributors to the campaigns of the political parties, both in national and local elections.

The viability of the reform initiative depends to a large extent on the priority that the Executive gives to the issue and on the reform sectors of society making the legislators feel the importance of the reform to improve the health of the population.

The perspective of the organizations of medical professionals, fundamentally in medical specialties that deal with the non-communicable diseases associated with the consumption of tobacco, are bound to play an important role in securing parliamentary support for the reformist initiative. On the other hand, in several of the countries studied in this research there are Non-Governmental

Organizations (NGOs) that have prestige and that their opinions are considered by the political representatives. The position of international organizations such as WHO and PAHO is usually valued in the course of parliamentary debates. The scientific information provided by these bodies is often considered reliable and relevant by parliamentarians.

First, the parliamentary discussion of the reform should contribute to a significant increase in the tax burden on the consumption of cigarettes and tobacco. Additionally, the Parliament could grant powers so that the Executive could continue increasing the tax rates in the future, both in the specific component and in the ad valorem. Clearly, these possibilities will depend on the tax constitutional framework of each jurisdiction, but the experience of Peru indicates that even in the case of having powers to modify their specific tax through executive decrees, significant delays may occur due to the lack of regularity of the rate increases. To a lesser extent, but in the same sense, the minimum tax created to govern as of 2018 in Argentina, contemplates a margin of discretionary adjustment of the Executive of 25% towards the increase or 10% reduction, but several judicial presentations prevented its full implementation, also causing the delay in the adjustment of the tax and its corresponding transfer to prices, as well as its effective adjustment according to the price level of the economy.

It is important that the reform grants the Executive the power to periodically adjust the specific component of the tax according to the evolution of inflation. Otherwise, the inflationary processes will impose unnecessary pressures on the tax policy in real terms

that, if not borne by the political power, will erode the importance of this component, losing power over time to the policy agreed in the past. The two studies carried out for the Mexican case (ETHOS and CIAD) and the one for Peru (IEP) show the negative effects of the delay in updating the values and the difficulties in doing so in a timely manner. Meanwhile, in regard to the ad valorem component, it would be advisable for the Legislative to provide some margin of discretion to the Executive to introduce new increases in the tax rates.

From the experiences indicated, the greatest and most enduring pass-through to retail prices was manifested in the reforms that increased the specific component of the tax, which corresponds to the theoretical precepts regarding taxation, and with the recommendations made in art. 6 of the FCTC. But, at the same time, in the case of the objectives pursued through excise taxes on tobacco, this specific component allows reducing the price gap between expensive and cheap brands, which could also be observed in the specific experiences of this project, and in other recent empirical studies (Chaloupka and Rodríguez-Iglesias, 2018).

In the process of designing the reform and in the parliamentary procedure of the initiative it is important to take into account two aspects. In the first place, it is necessary to define if the reformist initiative materializes in a one-time tax modification. In this case, the Parliament should grant the necessary tools to the Executive to instantaneously implement the tax modification and its durability in real terms. An alternative could be the adoption of a more gradual path, in which

the use of the tax instrument is intensified gradually over time, depending on the results that are obtained in terms of reducing the consumption of cigarettes and tobacco and the evolution that is recorded in the tax collection (IMF, 2016). Secondly, it is necessary to determine the degree of discretion that the Parliament grants to the Executive in the handling of the new tax instrument. Given the importance of reducing tobacco consumption in health terms, it would seem reasonable for the Executive to have broad powers to deepen the reform process. Anyway, the possibility of making tax reductions without mediating a new parliamentary intervention should be limited, and even eliminated, although the proposal – up to the moment failed – of asymmetric possibilities biased towards the hike tested in Argentina may also be an intermediate alternative.

A type of complexity that is particularly relevant from the point of view of political economy is related to the various forms that internal opposition can take to the reform process. The resistance of tobacco companies (national companies or foreign multinationals) is usually exercised through conventional means, which lobby groups use to defend their interests, resorting to mass media advertising and promoting the dissemination of information that raises doubts about the effects of the reform initiative.

A completely different type of opposition is that which may come from the sectors dedicated to the cultivation of tobacco, which in

many cases are geographically concentrated. Mobilization contrary to the reform of these actors can acquire another political dimension and become an effective brake on the reform process. In these cases, it is essential that in the approval process of the reform initiative, productive restructuring mechanisms are envisaged for the affected sectors or that compensation mechanisms are established to mitigate the resistance to change on the part of the affected sectors. It should not be forgotten that there are countries in which there are explicit policies to support the tobacco growing sectors, which undoubtedly adds to the process of implementation of the reform. It is important to bear in mind, on the other hand, that the restructuring programmes are often difficult to implement in agricultural production, which can make the resistance to reform on the part of the affected sectors even more important.

Finally, it is necessary to return to an aspect dealt with in the previous section and which refers to the convenience or not of establishing the specific allocation to all or part of the resources obtained by this taxation. There different technical arguments were offered against that decision. However, there may be political reasons that, under certain circumstances, justify choosing a non-ideal path from a technical point of view, but one that could be useful in tilting the balance in favor of the reform sought in the debate. In this sense, the allocation of resources to some social purpose or, especially, to public health, could be considered acceptable.



10. Final reflections and future challenges

This report has offered a quick overview of the issues addressed in the different national studies on anti-smoking policies developed in some Latin American countries and has allowed identifying a set of issues that the governments of the region should pay attention to when designing their anti-tobacco strategies, making more intensive use of tax and fiscal tools.

Although the possible impacts of taxes on the prices and consumption of tobacco products are present in all the countries analyzed, the heterogeneity of situations in the region is manifested, in particular, in different accents that each study has put on the problems associated with smoking. For example, in the Argentine case, the characteristics of the tobacco offer and the incentives to production appear as outstanding issues. The problems associated with the adjustment for inflation of the specific tax amounts are underlined in the cases of Mexico and Peru. The complexities derived from illicit trade and evasion represent a central theme addressed in the Brazilian study. The review of tobacco control policies is treated with special attention in the studies of Ecuador and Mexico. In these last two cases, the investigations carried out have also provided valuable information about the impact of tobacco taxes on the distribution of income. In all cases, the effects of the consumption of tobacco products on health expenditures have been considered and policy recommendations are being tested.

This section, which brings the paper to a close, reviews the main findings of the project, summarizes the main policy recommendations, and identifies the future challenges

faced by countries in the region in their efforts to achieve better results in the fight against smoking.

In particular, reference is made to the level and structure of taxation on tobacco, identifying the main economic effects that a higher tax burden would have on the consumption of these products, highlighting the need to improve information for decision making, the social impacts and the repercussions of tobacco consumption on health expenditures are described, while the non-tax tools of combating tobacco consumption are presented and the factors of political economy that should be considered are identified for the implementation of reforms that increase the tax burden on tobacco in the countries analyzed.

Level and structure of tobacco taxes

Studies have shown that, as with so many other characteristics of the region, it is not possible to find a unique pattern of taxation on tobacco. The regional reality shows a great heterogeneity in the tax burden levels and in the weight of the same in terms of the retail prices of the products. It should be noted, however, that the countries that have been analyzed in this research are among those that show a greater relative burden on the final price of tobacco products in the context of Latin America. It is also interesting to note that during the last decade there were increases in the total tax burden of taxes on cigarette consumption and prices in dollars of purchasing power parity.

On the other hand, the region seems to have followed the recommendations made in the FCTC, in the sense of moving towards tax structures on cigarettes where specific components become more important. This is the case of Ecuador where, as of 2012, there was a shift towards specific tax. For its part, in Mexico and Peru, the decrease in the share of ad valorem taxes appears as the consequence of the incorporation in 2010 of a specific tax component. Unlike Peru, where the amount of the tax was almost four times higher, in Mexico the lack of inflation update of the specific component since 2011 has resulted in the progressive loss of the real value of this part of the tax burden. The case of Brazil is extremely complex to analyze, since it presents important differences between the different states, given its federal organization and the existence, since 2011, of an option for a special rule that includes a specific tariff that presented several updates. Finally, in Argentina the introduction of a specific component is hindered by different appeals filed before the courts.

Consequently, it is wise to remember the recommendation of the WHO about achieving a total burden of at least 75% and excise taxes of at least 70%. Given the empirical evidence of the expected effects of a greater transfer to prices of increases in the specific component with respect to the ad valorem component, and taking into account the strategic importance of reducing the substitution effect between expensive brands and cheap brands, initiatives should be tested tending to advance in the establishment of a specific minimum burden with respect to the retail price as a way to ensure the impact on prices.

Economic Effects of the Tax

All the econometric estimates made by the different national studies show that the demand for tobacco and cigarettes is relatively inelastic with respect to variations in the actual prices of these products. In general, the results obtained indicate that the specific estimates of price elasticity show values ranging between -0.4 and -0.5. These figures are similar to those obtained in previous research conducted for the countries studied and are in line with the international evidence available on the subject. Based on this evidence, it can be stated that a strategy involving an increase in the tax burden would be effective in continuing to reduce the consumption of tobacco products and would cause an increase in tax revenues in the medium term. The estimated values of price elasticity indicate, however, that tax increases would, predictably, have a less than proportional effect on consumption and the tax tool should therefore be used aggressively, if it is to achieve a significant reduction in the consumption of these products.

Need to improve available information

The need to have accurate and reliable estimates of the effects of the different policy actions aimed at reducing tobacco consumption makes it necessary to draw attention to the deficiencies that exist in the available data sources.

When analyzing the economic effects of tax increases, especially in the case of Ecuador, there have been major methodological difficulties in obtaining robust information on the main parameters of interest.

The Brazilian study found that despite the growing perception of the significance of illegal cigarette consumption among independent researchers, there are major information gaps regarding the quantitative significance of this phenomenon. The lack of reliable information on illegal trade threatens the possibilities of better understanding how the tobacco production chain works. Improvements in information on this phenomenon are essential for a successful fight against tax evasion and the illicit trade in cigarettes.

In addition, a better design of public policies requires a greater effort in the construction of indicators. This includes the implementation of surveys on healthy consumption that can provide accurate, up-to-date information. It is also necessary to emphasize the importance of the availability of indicators that provide information on the effectiveness and efficiency of public resources used in tobacco control activities

and contribute to a better assessment of the actions carried out by governments.

Significance of non-tax policies

Tax increases can be enhanced if used simultaneously with other initiatives. To a greater or lesser extent, the studies carried out as part of this project show that the countries in question, with the exception of Peru, have made significant progress in this regard. For instance, Argentina has implemented a comprehensive policy on the control and prevention of the demand for cigarettes over the last few decades which includes restrictions on consumption in public places, warnings about the harmful effects on the health of the population and limitations in the advertising guidelines. In Brazil, various institutional efforts were included in the National Tobacco Control Programme. In Ecuador, the measures taken as part of the Organic Law for the Regulation and Control of Tobacco included the creation of smoke-free spaces, a ban on sales to minors, graphic health warnings on the harmful effects of tobacco and advertising restrictions. Mexico, for its part, is one of the countries with the longest tradition in this area and has implemented various anti-smoking programmes and strategies since the 1980s. These actions included warnings about the effects of tobacco on the packaging and labels of products, smoke-free spaces in different public areas, a ban on advertising and a fight against the illegal production of and illicit trade in these products.

The research conducted in the context of this project not only addressed the analysis of policies aimed at reducing the demand for tobacco products, but it also took account of the fact that an effective tobacco control policy also requires policies on reducing supply. In this regard, a distinction must be made between the situation of countries that produce tobacco and its derivatives – which may also be exporters – and those that depend on imported supply exclusively.

Moreover, strategies that seek to increase the effectiveness of tobacco tax policies should also focus on controlling illicit trade and replacing incentives for growing tobacco to alternative crops.

Distributional impacts and effects on health expenditures

One point that has been the subject of special attention in some of the studies carried out in the context of this research is the impact of increases in the retail prices of tobacco products on the distribution of income and the various effects that the implemented policies have on the health of the population and the expenditure of countries on health care for those affected by their consumption. The impact of price increases on low income households can be an argument to stop the progress of the tax reforms necessary for reducing consumption. For this reason, it is essential to support the tax changes with awareness campaigns which disseminate the

benefits of anti-smoking policies in reducing consumption of this substance for an improved quality of life and greater life expectancy in every sector of the population. Indeed, there is ample international evidence that the consumption of cigarettes and tobacco products is responsible for several chronic and catastrophic diseases that result in high morbidity and mortality rates.

An issue raised in some of the national studies, and which requires further reflection, is the direct allocation of the funds raised by tobacco taxes to the health sector in general, or to specific programmes, such as smoking cessation. In this regard, consideration should be given to the specific allocation of the new resources to the financing of programmes that compensate the possible losses of the lowest-income smokers that keep smoking after the increase. As already mentioned, those responsible for tax policy in the countries are concerned about the rigidities and inflexibilities that earmarking introduces in public resources. However, this position could be relativized if there were explicit commitments to earmark the new resources. Even though there is some debate around earmarking, the allocation of revenue to specific purposes can be a way of facilitating the necessary political agreements for progress in increasing the tax burden.

The Argentinian case presents features that could be described as incomprehensible. In Argentina, part of the revenue from taxes on the consumption of tobacco products is still allocated to a fund that encourages and subsidizes tobacco production itself. The difficulties in modifying this allocation are necessarily related to political economy

arguments that should be taken into account in any reform.

Political economy implications

In general, tax innovations involve political decisions that are adopted in a context in which the main economic stakeholders and interest groups of society take action so that their positions are considered by policy makers. These reactions are unavoidable and must be considered by the advocates of the reforms.

It is difficult to think of making significant progress in the use of tax tools in the fight against smoking if the design of strategies forgets that in all cases, tax reforms involve a wide range of complex political economy dimensions.

In the case of tobacco taxation, it is important to remember that taxes on the consumption of cigarettes and tobacco are national taxes whose modification requires the intervention of the Legislature. The parliamentary treatment of a tax reform usually becomes a suitable field for the affected business sectors to act and make themselves heard. On the other hand, as mentioned above, in the case of a tax initiative with health motivations it is important to ensure the compatibility of interests between the Ministry of Health and the Ministry of Finance. This should be considered as a prerequisite for any reform initiative. Given the distribution of tax and expenditure responsibilities in each

particular case, issues related to tax federalism should be considered.

It is important for the drive towards reform initiatives to be accompanied by the adoption of measures that complement the tax increase and by the implementation of an aggressive awareness campaign with information on the harmful effects of cigarette and tobacco consumption. The feasibility of the reform initiative depends to a large extent on the Executive prioritizing the issue and the sectors of society who support the reform making lawmakers feel the significant role of the proposed reform in improving the population's health.

In view of the analysis of the experiences of Mexico and Peru, it is important for the tax reform to give the Executive the power to periodically and/or automatically adjust the specific tax component to match the evolution of inflation. Furthermore, considering the situation in Argentina, an altogether different kind of opposition is that which may come from the tobacco farming sectors, which are in many cases geographically concentrated. Action taken by these stakeholders against the reform can take on another political dimension and become an effective obstacle to the reform process.

Finally, it is necessary to return to the possibility of establishing some specific earmarking of part of the resources obtained from this tax as part of a course of action that, although it can be seen as a rigidity on the allocation of public expenditure, could help to tip the balance in favour of reform.

Final considerations and summary of policy recommendations

In light of the impact of the illegal tobacco trade in Brazil, further research is warranted on the impact of the significant low-cost trade in cigarettes from Paraguay on the effectiveness of the anti-tobacco strategy implemented in the country. A policy aimed at improving the impact of this strategy proposed in the FUNCEX study involves improving control over the tobacco production chain in Brazil. A discussion of these issues could provide valuable information on the role that curbing the illegal tobacco trade would play in maximizing the effectiveness of the tax increase policy in reducing the consumption of this type of products.

It should also be borne in mind that the use of the estimated values of the price elasticity of demand in making tax policy simulations presupposes that these values would remain unchanged despite tax changes, an assumption that does not have to happen in

practice. In this regard, it would be interesting to promote new explicit and systematic research into the stability of the parameters of the demand for tobacco. A study of the sensitivity that price elasticity has shown in the context of major changes in the tax burden on the consumption of these products would be particularly useful.

The values of price elasticity arising from estimates of the demand for tobacco which do not take account of complementarities and possibilities of substitution with other products – in particular those whose consumption is also damaging to health – should be used with certain caution. The consumption of tobacco products is a case of unhealthy consumption; the health objectives of countries should obviously discourage their consumption, but also that of other products with harmful effects on the population's health.



Table 2.

Summary of the main policy recommendations

Most of the estimates made as part of this project indicate that the price elasticity of demand is less than one unit and the value of this parameter is between -0.40 and -0.50, which implies that, **a 10% increase in the retail price of tobacco would result in a reduction of between 4% and 5% in the amount consumed.** Therefore, the tax increase would be compatible with an increase in total revenue from the tax. In other words, reforms in the countries in the region should result in significant increases in the tax burden leading to considerable increases in the relative price of these products, if the goal is significant reductions in consumption.

Moreover, strategies that seek to increase the effectiveness of tobacco tax policies should also focus on controlling illicit trade and replacing incentives for growing tobacco to alternative crops.

In the case of Argentina, the ITDT study suggests that it is more efficient to increase the ad valorem tax rates, as it produces more immediate results on cigarette consumption and tax revenue than the implementation of a reform that includes only one specific tax, as a result of evident institutional pressure through writs of protection which have managed to thwart attempts to enforce minimum taxes.

Additionally, the **Centro iDeAS-UNSAM** study concludes that any possibility of taking action on the supply- side to complement efforts to reduce tobacco consumption requires gradual progress on different fronts. In this regard, some examples of action that could be taken without the need for substantial changes to the Special Tobacco Fund (FET) are:

- Improving the use of the funds that benefit small producers.

- Prioritizing productive diversification rather than restructuring projects.
- Extending the benefits of the FET for a period of 3 to 5 years after stopping operations as a tobacco producer.

Some additional further-reaching actions could involve:

- Implementing a comprehensive regional development programme that includes – but is not limited to – the restructuring of tobacco production.
- Conducting a campaign aimed at raising awareness among producers of the worldwide trend towards a reduction in tobacco consumption.
- Contemplating a possible increase in tax withholdings on tobacco exports as a means of countering the encouragement for traders and limiting the incentive to expand production/exports.
- Amending legislation in order to turn the FET into a co-participatory tax resource for the producing provinces.

In the case of Brazil, the findings of the FUNCEX study support the implemented tobacco control strategy: increasing tobacco taxes and the actual prices of cigarettes and strengthening tobacco control policies have the intended effect of curbing the prevalence of tobacco and cigarette consumption.

However, the presence of illicit products jeopardizes the effectiveness of public health efforts and makes the assessment of the tobacco market considerably more complex. The illicit cigarette trade in Brazil undermines the capacity of the State to fight the tobacco epidemic in the country and makes it difficult to assess the policy, since total cigarette consumption is unknown.

Cigarette-related tax revenues have been lower than they should have been and tax evasion by domestic producers is a key issue. It is therefore proposed that measures should be taken to stop an increase in the consumption of illicit cigarettes and curb tax evasion. The FUNCEX study suggests creating a track-and tracing mechanism on inputs for the manufacture of cigarettes, and to strengthen law enforcement on illicit activities to control not only illicit trade but also illegal production and tax evasion.

The recommendations emerging from the **PUCE** study in Ecuador are that the IRS's capacities should be strengthened to estimate the evasion gap and other public institutions need to join the control process for improved efficiency. On the other hand, taking account of the fact that the existence of illicit trade could be covering part of the demand for cigarettes, it is necessary to support the implementation of SIMAR to reduce smuggling.

Improving the effectiveness of policies in order to reduce tobacco consumption by increasing the tax burden and change the consumption patterns of individuals. However, this effort must not be disjointed and isolated from other demand-side public policies related to education and health, which promote prevention and control measures aimed at household habits and promoting healthy lifestyles.

Additionally, the study suggests working on the supply-side through the implementation of public policies that will discourage production.

In the case of Mexico, **ETHOS** stresses that the effectiveness of the Special Tax on Production and Services (IEPS) has been eroded over time, since it has ad valorem and specific components, and failure to update the latter since 2013 has led to a significant loss in revenue, and the costs related to tobacco in the health sector at present are so high that the revenue from the IEPS only covers half of them, excluding the activities that seek the prevention and elimination of tobacco consumption.

Therefore, a higher tobacco tax is proposed that should be periodically updated at a greater rate than inflation in order to reduce cigarette affordability, both as an incentive for people to smoke less, and to reduce the burden of smoking on public finances. ETHOS other recommendations at the tax and budgetary policy level as well as some measures that could improve tobacco control in Mexico:

- Linking the collection of tobacco taxes with the prevention, cessation and treatment of diseases caused by the consumption of this product.
- Redesigning the budget structure related to tobacco control, designing specific indicators to determine the effectiveness of each of the actions taken by the State and measure how efficiently public resources are used in the fight against smoking.
- Designing a National Policy for Tobacco Control.
- Improving health warnings on packs.
- Extending anti-smoking campaigns to the digital sector.
- Strengthening preventive measures against exposure to tobacco smoke.
- Improving institutional activities aimed at smoking cessation.
- Moving from vague legislation to specific tobacco control policies targeted to reduce consumption.

Moreover, the CIAD study agrees with the ETHOS study and finds that even though indirect taxes currently account for 67% of the price of tobacco in the country, this burden remains below the 75% recommended by the WHO. In any tax reform scenario, it is essential for the specific component of the special tax to be updated in keeping with



inflation, so that it does not lose its reduction effect on consumption over time. It then makes the following policy recommendations:

Increasing both IEPS components to reach the tax burden suggested by the WHO (260% and 0.80 pesos); and increasing the ad valorem component to 240% and the specific component to 2.35 pesos for the purpose of adjusting the internal price to international levels. The effect of these tax reforms on inequality would be limited in these 1% and 1.07% scenarios respectively, and the impact on inequality within income groups would be relatively low. This is based on the fact that a) smoking households in low-income deciles would reduce their tobacco consumption by 36%, while in the higher-income deciles consumption would decrease by 23%; b) the variation in the price of the product would be up to 42.8%, and higher in the lower deciles (47.5%); and c) there would be moderate increases in poverty levels among smoking households. An increase in the specific component of the tax would not increase the regressivity of the tax, and the reform of the IEPS should increase the amount of the specific component in a greater amount than the ad valorem because the specific tax: a) is required to be updated above inflation periodically; and b) produces greater reductions in consumption.

- Contrary to tobacco use trends in other countries, prevalence among poorer people is the lowest relative to people in higher-income deciles of the population. As highest income deciles have a greater prevalence and consume higher priced brands, a higher share of tax revenues comes from taxpayers in the highest income decile. This results in a progressive redistributive effect.
- It is suggested that the tax resources from tobacco should be used for two purposes:
 - Strengthening national health programmes against tobacco use by increasing healthcare coverage to low-income populations for tobacco-related illness through social insurance, including preventative care, such as medical check-ups to detect tobacco-related illness.
 - Assigning a transfer to population groups in poverty, comprised of a food basket of the most consumed foods among poor people (eggs, beans, milk and tortillas) through food allowance (food stamps). Use of government distribution channels, called Diconsa-Liconsa, or through money transfers by cards to acquire the four types of foods included.

In regulatory terms, a subsidy on the basic food basket would compensate the most for the poverty among continuing smokers caused by the increase of the tobacco price tax. These groups will therefore be able to acquire more food and, at the same time, the taxes will reduce the consumption of tobacco and lead to a change in their consumption pattern. On the other hand, this paper reveals that a subsidy on health expenditure would compensate only the smoking households living in chronic poverty. In order to implement the described recommendations in the form of public policies, it is necessary for the Mexican government to pass laws for the labelling of tobacco-related tax revenue resources, since, if the corresponding law is not amended, the additional resources

obtained will continue to be allocated to other public expenditure items.

In the case of Peru, the IEP suggests a predetermined mechanism for constant SCT increase above inflation, which would help to reduce apparent consumption and reach the goal of 70% total tax burden by 2030 in line with the recommendations of The OMS. The results obtained indicate that the tax burden as of 2030 would be between 67.10% and 74.80%, achieving a drop in apparent consumption of between -7.2% and -22.30%, and an increase in revenue of between 34.80% and 56.30%. In this regard, the increase in taxes should be approximately two percentage points above the average inflation in the last decade (3%) so as to reach a tax burden that will account for an estimated 70% of the retail price by 2030.

The effectiveness of the use of indirect taxes on cigarette and tobacco consumption may depend on the effectiveness of customs checks. The weakness of these checks may be used by opponents of the reform, generating skepticism about the final effects of tax increases. This is particularly significant in countries where there is no tobacco farming and in countries bordering on others that produce raw materials at low costs. In this regard, the experiences of Brazil, in its relations with Paraguay, and Ecuador, encourage us to look more deeply into the possible illicit relations within the production chains. One of the recommendations for the construction of empirical evidence in the region would be to study the Paraguayan tobacco complex more thoroughly in order to fully understand the situation of tobacco production and consumption in the region, especially in the Mercosur area.

In the countries that produce tobacco, consumption reduction policies are faced with the additional challenge of productive restructuring of businesses that are usually in the hands of small producers in areas of low relative development and highly vulnerable social conditions. Examples of this situation are Argentina and Brazil, and, to a lesser

extent, Ecuador. Although successful restructuring experiences in different countries show that the substitution of the tobacco production is possible from the technical point of view, and viable at the economic level, it is important to bear in mind that it is a necessarily long, gradual and complex process which should involve producers, seeking new partnership and recruitment modalities that may replace the incentives offered by the tobacco chain.

An altogether different problem affects the countries such as Peru that import tobacco and its products. Because a substantial share of international trade in these products is carried out under preferential conditions associated with different regional trade agreements, a policy objective that goes beyond the attributions of tax policies in each country is based on the need to eliminate unhealthy imports' preferences to tobacco and other unhealthy products under ongoing preferential trade agreements. However, while tobacco taxation is the single most effective policy for the objective of reducing tobacco consumption, the effectiveness of this policy can be enhanced if other initiatives are used simultaneously.

It is important to recognize that the disparities in tax pressure observed in the countries analyzed, together with the regressive nature of the tax systems and each particular context must be taken into account when analyzing the viability of tobacco tax increase initiatives.

The position taken by the Executive is key to advancing the process of change (a case in point in the region in this regard is Uruguay). A substantial increase in indirect taxation on cigarette and tobacco consumption can hardly be achieved without an initiative from the Executive and without the parliamentary representatives perceiving the proposed project as a political priority for the government. In this context, and in the case of a tax initiative with health motivations, it is important to ensure the compatibility of interests between the Health and Finance Ministries. It seems obvious that the position of the Health

Ministries should definitely be favourable to the initiative and political support should be given.

From the political economy point of view, there are issues related to fiscal federalism that must also be considered as they take on special significance when the provision and funding of public health services are in the hands of provincial or local governments (such as the case of Argentina). In these cases, since the collection of the tax is usually in the responsibility of central governments, reconciling interests can be more complex. To ensure progress in the reform, mechanisms should be carefully defined for co-participation in the collection of the new tax or the increase of the existing tax, and, if necessary, a specific distribution rule should be established. The development of the co-participation scheme should take account of the way in which the different local governments are being affected by the implementation of the initiative.

If health policy makers do not introduce any measures apart from tax increases, the parliamentary stakeholders may perceive a half-hearted commitment to the initiative on the part of the Ministry of Health. If this happened, doubts would arise about the priority of the project from the point of view of health objectives and the initiative would be discussed in Parliament exclusively from the fiscal point of view, which could jeopardize the approval of the project.

The Legislative is a key stakeholder in the reform process, to the extent that it must necessarily give legal support to the tax increase. Even if they come from the ruling party, MPs have their own interests and, in many cases, they are different from those of the Executive. Once again, there are issues here related to federalism and the unequal economic development of the territories of each country, so the development of reforms in this area must take account of these dynamics and possible parliamentary groups for or against them.

The Finance Ministries will take a stand on the reform project, analyzing the economic and fiscal repercussions of the initiative. The tax collection efficiency of the measure would depend, to a large extent, on tax evasion in the production and sale of these products not increasing. The adoption of measures to improve control over these activities and greater enforcement of corporate tax obligations in the sector appear as fundamental measures to ensure that the increase in taxation on tobacco consumption will actually generate more resources for public finances. Therefore, the strengthening of the control and collection capacities of states is a fundamental element for progress in these reforms.

Finally, it is important for the drive towards reform initiatives to be accompanied by an awareness campaign with information on the harmful effects of cigarette and tobacco consumption and the adoption of other measures complementary to the tax increase. As noted above, reducing tobacco consumption will involve the use of multiple tools: regulations that limit cigarette and tobacco consumption in public spaces, a ban on smoking in educational centres and workplaces, policies on product labelling, limitations to the use of advertising on television and in public spaces, have proven useful tools for reducing consumption and raising awareness of these reforms.



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