

Fiscal Panorama of Latin America and the Caribbean

2019

Tax policies for resource
mobilization in the framework
of the 2030 Agenda for
Sustainable Development



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Tax policies for resource
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of the 2030 Agenda for
Sustainable Development



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Foreword

Fiscal consolidation continued in Latin America and the Caribbean in 2018. The primary deficit for the Latin American countries as a group came down from 0.8% of GDP in 2017 to 0.5% in 2018, mainly as a result of cuts in primary spending –total expenditure before interest payments– which fell from 19.0% of GDP in 2017 to 18.6% in 2018. In the Caribbean, the overall primary surplus rose from 0.9% of GDP in 2017 to 2.1% in 2018, reflecting the need to continue to generate substantial primary surpluses to stabilize and reduce high public debt levels.

Despite the improvement in the fiscal position in Latin America, its gross public debt is rising, and reached 42.3% of GDP in 2018 compared with 39.4% the previous year. This rise is chiefly a reflection of gross public debt in Argentina, which climbed by 38 GDP percentage points between 2017 and the third quarter of 2018, to reach 95.4%. By contrast, Caribbean gross public debt levels, though still high, dropped between 2017 and 2018, from 74.3% of GDP to 72.4%.

The region's fiscal consolidation efforts have shrunk the growth contribution of public expenditure. Capital spending in Latin America fell from 3.6% of GDP in 2017 to 3.2% of GDP in 2018, the lowest level since 2007. South America also saw a fall in primary current expenditure, which could put pressure on social spending. In the Caribbean, meanwhile, the decline in interest payments seen in recent years continued in 2018, which opened up some space for balancing the composition of total government expenditure and, in fact, public investment has risen in most of the Caribbean countries.

Government revenues remained at 2017 levels (18.1% of GDP) for Latin America as a whole, but this masked divergent performances, with a downward trend in the group comprising Central America and Mexico, and an upturn in South America. In the Caribbean, an increase in tax revenues and in other income, including citizenship by investment (CBI) programmes, pushed up total revenues to 27.6% of GDP in 2018, from 26.3% in 2017.

Fiscal revenues in the region remain insufficient to finance achievement of the Sustainable Development Goals. One of the main barriers to domestic resource mobilization is the high level of tax evasion and illicit financial flows. The latest estimate by the Economic Commission for Latin America and the Caribbean (ECLAC) suggests that tax evasion and avoidance in Latin America cost 6.3% of GDP in 2017, equivalent to US\$ 335 billion. ECLAC also estimates that the Latin American and Caribbean region overall lost US\$ 85 billion—or 1.5% of regional GDP—in illicit financial flows as a result of trade misinvoicing in 2016.

At the subnational government level, the region's most decentralized countries saw a rise in primary and overall deficits in the average figures in 2017, mainly reflecting the subnational fiscal balances in Argentina, Brazil and Mexico. These developments have considerably reduced the fiscal space available to this level of government since 2012, as a result of rising expenditure, limited use of existing subnational tax bases, such as property tax, and growth in public debt. Bearing in mind that in several countries of the region, the responsibility for basic services such as education, health and infrastructure has increasingly been passed to subnational governments, the narrowing of the subnational fiscal space could have an impact on the proper provision of these functions at the level of the consolidated public sector.

Although the past decade brought significant improvements in distribution trends at the regional level, data from the past few years show that the pace of inequality reduction has slowed. In an uncertain macroeconomic context and amid fiscal consolidation, this slowdown requires a fine-tuning of public measures. The region needs stronger tax

instruments with more redistributive power —personal income tax collection remains particularly weak— and more efficient and effective public expenditure geared towards well-being outcomes.

In this setting, tax policy has gained traction as a tool to boost progress towards the achievement of the Goals of the 2030 Agenda for Sustainable Development. Domestic resource mobilization is increasingly recognized as endogenous to the development process. The tax policies adopted impact not only the level of resources available, but multiple dimensions of the Sustainable Development Goals, such as inequality, poverty, and the well-being of women, older persons, youth and other vulnerable population groups. The challenges the countries face in this regard represent significant barriers to achieving sustainable and inclusive economic development.

This edition of *Fiscal Panorama of Latin America* and the Caribbean also examines some elements of tax policy that serve to foster progress towards fulfilment of the 2030 Agenda for Sustainable Development, as well as domestic resource mobilization. Chapter II examines taxation and oversight of the digital economy in the region, highlighting changes to business models and the challenges to tax policy and oversight they entail, since tax systems —designed in an earlier era— have a number of weaknesses that facilitate the erosion of tax revenues. In particular, the chapter reviews the unilateral measures that countries in the region have adopted in an effort to close loopholes for tax avoidance and collect tax on digital economy activities.

Tax policy can also impact on the decisions of different economic actors and discourage certain practices that are considered harmful or undesirable from the perspective of the well-being of society overall. Chapter III reviews the current status of environmental and corrective taxes in terms of their ability to address public health issues in Latin America and the Caribbean. The debate surrounding the use of these tax instruments has intensified recently in the region and a number of countries have adopted measures in line with those implemented in developed countries. This chapter also seeks to contribute to the regional discussion on the use of corrective taxes —particularly those related to the consumption of tobacco in all its forms, alcoholic beverages and, more recently, sugary beverages and other unhealthy foods— to achieve the various targets of the Sustainable Development Goals.

Finally, chapter IV explores the use of fiscal incentives in Latin America. Domestic resource mobilization in these countries is constrained by the existence of numerous tax incentives and preferential tax treatments and the cost of tax expenditures —which act as transfers of public resources through the tax system— is considerable. It is important to analyse tax expenditures as a possible tool that, effectively geared towards investment, could help to achieve the targets proposed in the Sustainable Development Goals. However, the use of this tool needs to be assessed through a cost-benefit analysis, taking into account its interaction with tax policy and public expenditure programmes. Such assessments could determine whether there is justification for establishing or maintaining preferential tax treatment, or whether they should be replaced with other, more efficient and effective measures.

Alicia Bárcena
Executive Secretary
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Latin America and the Caribbean (ECLAC)



CHAPTER

The fiscal situation: evolution of public finances in Latin America and the Caribbean in 2018

Introduction

- A. Fiscal consolidation continues, but the pace varies across the region
- B. Gross public debt increased in Latin America as a whole
- C. Public spending's contribution to growth remains low
- D. Government revenues remain stable on average, but trends differ significantly among countries
- E. The different dimensions of inequality and fiscal policy challenges
- F. Tax evasion and avoidance and illicit financial flows in the region
- G. Subnational governments' deficits increased in 2017

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Introduction

Fiscal consolidation in Latin America and the Caribbean continued in 2018. The total primary deficit of Latin American countries fell from 0.8% of GDP in 2017 to 0.5% of GDP in 2018, owing mainly to the reduction in primary spending—total spending excluding interest payments—from 19.0% of GDP in 2017 to 18.6% of GDP in 2018. Meanwhile, the total primary surplus of Caribbean countries rose from 0.9% of GDP to 2.1% of GDP over the same period, in line with the need to continue generating substantial primary surpluses to stabilize and reduce the high level of public debt.

Gross public debt trends in the region were mixed. On one hand, public debt is on the rise in Latin America, accounting for 42.3% of GDP in 2018, compared with 39.4% of GDP in 2017. This increase reflects mainly the change in gross public debt in Argentina, which rose 38 percentage points of GDP between 2017 and the third quarter of 2018, reaching 95.4% of GDP. The increase in debt levels in Latin America also brought with it a rise in interest payments. On the other hand, gross public debt in the Caribbean decreased—although it remained high—from 74.3% of GDP in 2017 to 72.4% of GDP in 2018.

Public spending—and its contribution to GDP growth—contracted in Latin America, from 21.3% of GDP in 2017 to 21.1% of GDP in 2018. Notably, capital spending fell from 3.6% of GDP in 2017 to 3.2% of GDP in 2018, the lowest level since 2007. There was also a decline in primary current spending in South America that could exert downward pressure on social spending. Meanwhile, in the Caribbean, the decline in interest payments in recent years continued in 2018, providing an opportunity to balance the composition of total public spending. Interestingly, public investment increased in most Caribbean countries.

Although total public revenues for Latin America remained unchanged compared with the previous year (18.1% of GDP), this stability belied opposite trends in this part of the region. Total revenues for the countries of Central America and Mexico fell owing to lower non-tax revenues and declining tax receipts, especially from consumption taxes. Meanwhile, South America posted an increase in public revenues as a result of stronger momentum in tax collection and growth in fiscal revenues from non-renewable natural resources. In the Caribbean, an increase in tax collection and other income, including from citizenship-by-investment programmes, boosted total revenues, which amounted to 27.6% of GDP in 2018 versus 26.3% in 2017.

Although income inequality in the region has declined considerably in the last decade, data from the past few years indicates a slowdown in progress (ECLAC, 2019). This slowdown amid uncertain macroeconomic conditions means that public redistribution measures should be fine-tuned in terms of the provision and coverage of public social spending, intergovernmental transfers and different fiscal instruments that finance this spending. With regard to financing, personal income tax collection—despite an improvement in recent years—remains very low (1.6% of GDP on average), while wealth tax collection accounts for close to 0.5% of GDP.

The most recent estimate of the Economic Commission for Latin America and the Caribbean (ECLAC) of tax evasion and avoidance in the region suggests that this phenomenon cost 6.3% of GDP, or US\$ 335 billion, in 2017. Income tax non-compliance remains high, and some countries collect less than half of the resources their tax systems should generate. Also, according to the latest ECLAC estimates, illicit financial flows resulting from trade misinvoicing fell slightly, amounting to US\$ 85 billion or 1.5% of regional GDP in 2016. It is worth noting not only the fall in these flows in absolute terms but also the reduction observed in relation to the value exported, which could be interpreted as the result of greater control over these transactions by the authorities.

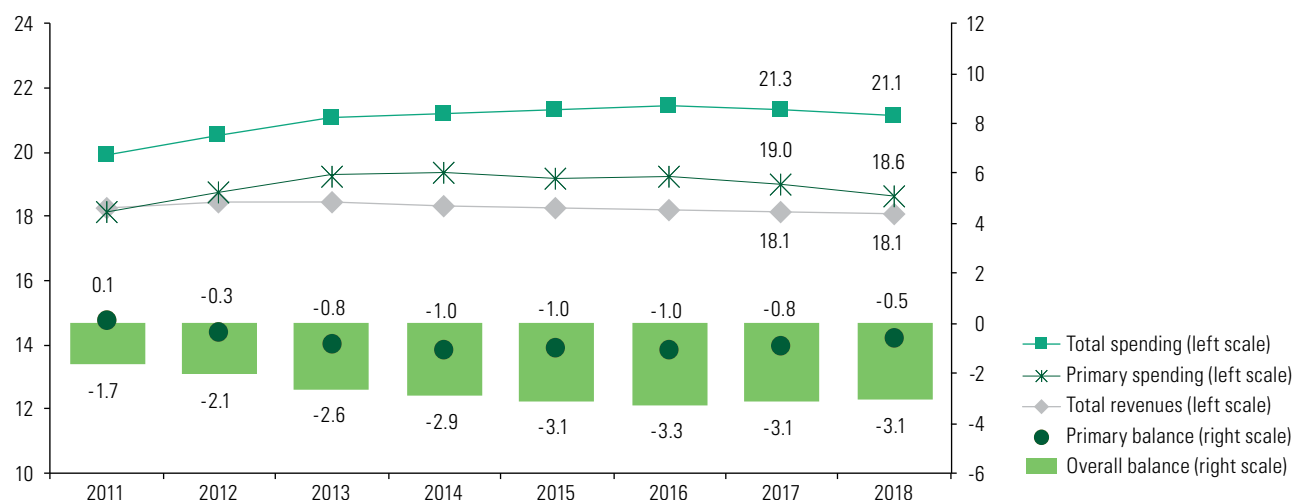
With regard to subnational governments, both overall and primary deficits increased, on average, for the most decentralized countries of the region in 2017, driven primarily by growth in the subnational fiscal deficits of Argentina, Brazil and Mexico. This sharply reduced the fiscal space available to subnational governments from 2012 onwards, in line with the trend seen at the central government level, as a result of higher spending, inefficient use of subnational tax bases (such as property tax) and rising public debt. Given that subnational governments are increasingly responsible for providing basic services such as education, health and infrastructure in several countries of the region, the narrowing of the subnational fiscal space may affect the provision of adequate services at the consolidated public sector level.

A. Fiscal consolidation continues, but the pace varies across the region

In light of complex macroeconomic conditions and greater uncertainty, Latin American countries continued efforts to balance their fiscal accounts in 2018. These additional efforts reflect concern about the sustainability of public debt, especially in Argentina and Brazil. At the same time, recognition of the need to address the challenges stemming from the external sector is growing, particularly with respect to access to international financial markets and higher financing costs, as a result of greater sovereign risk and exchange-rate volatility, among other factors.

Against this backdrop, the primary deficit of the 16 Latin American countries presented in figure I.1 declined from 0.8% of GDP in 2017, on average, to 0.5% of GDP in 2018, the lowest level since 2012. The contraction in primary spending more than offset the rise in interest payments and led to a reduction in total spending. Despite this decrease, the overall deficit remained relatively stable owing to the steady trend in total revenue for the region.

Figure I.1
Latin America (16 countries): central government fiscal indicators, 2011–2018^a
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Note: The figures are simple averages. In the cases of the Dominican Republic, Ecuador, Honduras and Nicaragua, the figures refer to projections based on a cumulative 12-month period to November 2018.

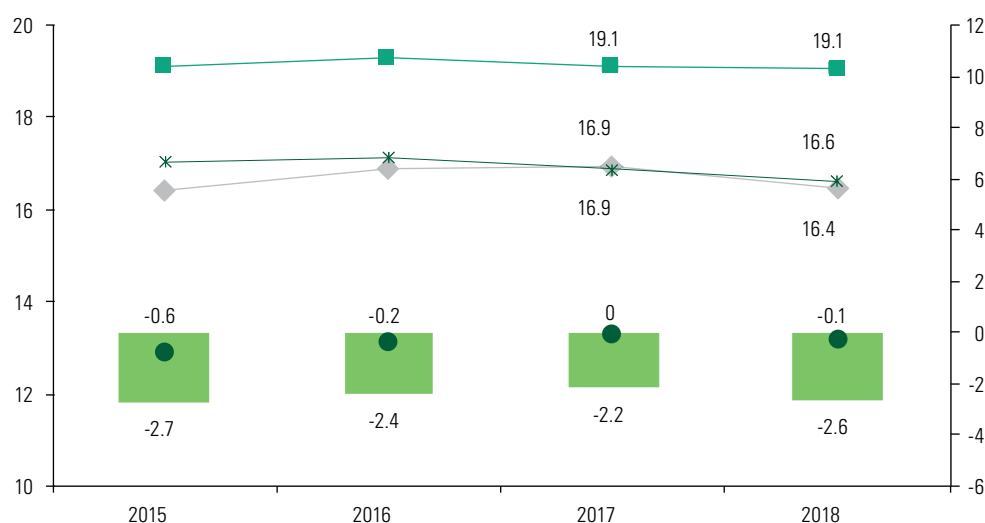
^a Argentina (national public administration), Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico (federal public sector), Nicaragua, Panama, Paraguay, Peru (general government) and Uruguay.

Analysis of fiscal trends in the main groups of countries in Latin America reveals that the primary balance of the countries of Central America and Mexico deteriorated slightly in 2018, but remains close to equilibrium (see figure I.2). On one hand, total revenues fell sharply, influenced by declining tax receipts and the base of comparison with the previous year, when several countries in the group received one-off extraordinary income. On the other hand, this reduction was largely offset by primary spending cuts, which mainly affected capital spending.

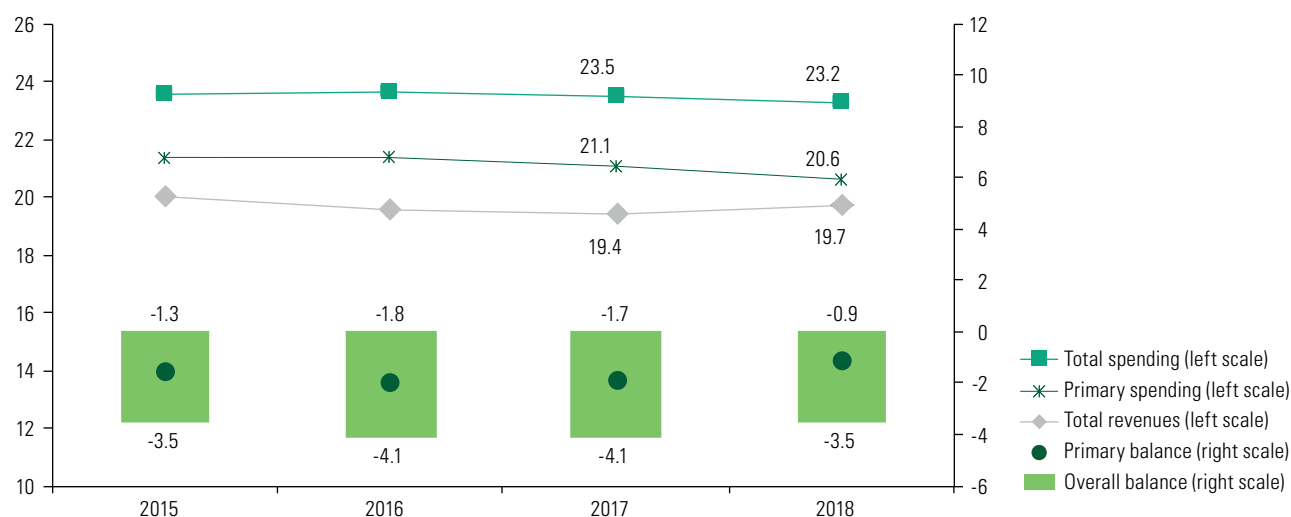
Figure I.2

Latin America (selected subregions): central government fiscal indicators, 2015–2018
(Percentages of GDP)

A. Central America^a and Mexico



B. South America (8 countries)^b



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Note: The figures are simple averages. Haiti is excluded because of a revision of figures. The figures for the Dominican Republic, Ecuador, Honduras and Nicaragua are projections based on a cumulative 12-month period to November 2018.

^a Includes Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama.

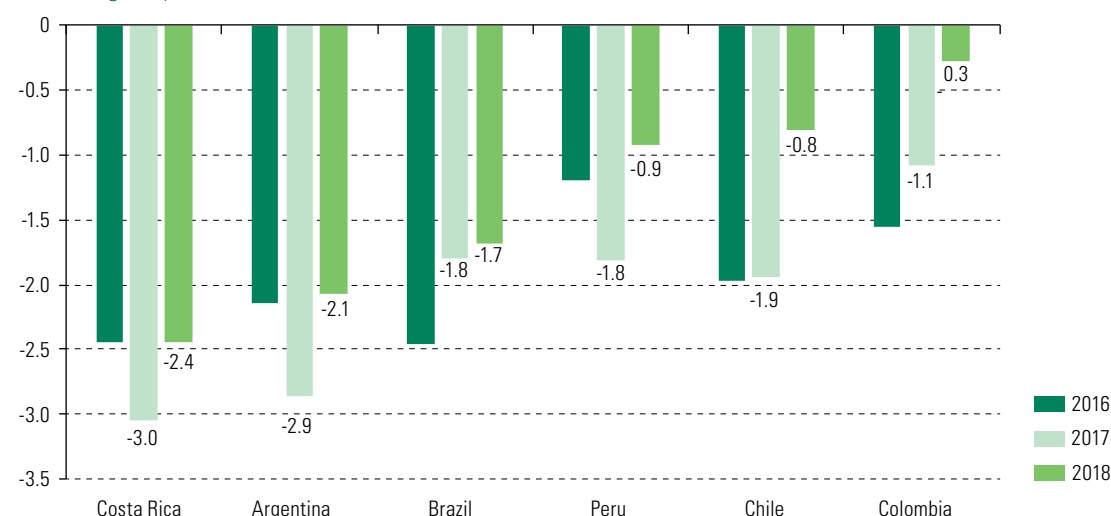
^b Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru and Uruguay.

By contrast, the trends in primary spending and total revenues helped to improve the primary deficit in South America (see figure I.2). On one hand, primary spending fell (from 21.1% of GDP in 2017 to 20.6% of GDP in 2018), reflecting cuts in both primary current expenditure and capital spending. On the other hand, total revenues rebounded during the year, driven by the return to growth in some countries, as well as the uptick in fiscal revenues from non-renewable natural resources because of rising international commodity prices. As a result, the overall balance decreased in 2018, returning to the 2015 level (-3.5% of GDP).

The magnitude of fiscal adjustments in several Latin American countries should be underlined. As can be seen in figure I.3, these had a major impact on the primary balances of Argentina, Chile, Colombia, Costa Rica and Peru. In most of these countries, the improvement in the primary balance stemmed from substantial cuts in primary spending, particularly primary current expenditure in Argentina (1.1% of GDP) and Colombia (1.2% of GDP). Capital spending was reduced in Argentina (0.6% of GDP) and Costa Rica (also 0.6% of GDP). Meanwhile, favourable trends in public revenues supported the fiscal adjustments in Chile and Peru.

Figure I.3

Latin America (6 countries): central government primary balance, 2016–2018
(Percentages of GDP)

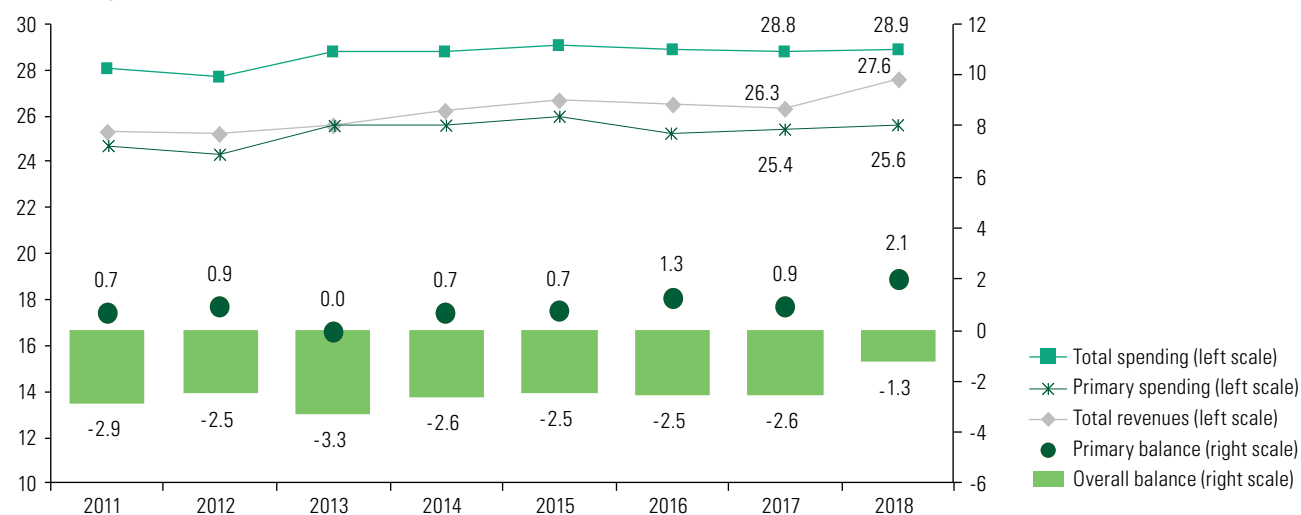


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

In the Caribbean, the significant uptick in public revenues in 2018 resulted in a notable improvement in the primary surplus (see figure I.4). This was largely thanks to extraordinary income received in Saint Kitts and Nevis and higher tax revenues in the Bahamas and Trinidad and Tobago. Meanwhile, primary spending increased slightly, owing to higher capital expenditure. Against this backdrop, the primary balance improved in the Bahamas (from -0.8% of GDP in 2017 to 0.9% of GDP in 2018), Saint Kitts and Nevis (from 3.6% of GDP to 6.4% of GDP), and Trinidad and Tobago (from -6.0% of GDP to -1.2% of GDP).

Figure I.4The Caribbean (12 countries): central government fiscal indicators, 2011–2018^{a b}

(Percentages of GDP)

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.^a Dominica is not included.^b The figures are simple averages. The figures for 2018 refer to projections from 2019 budgets, official estimates for the end of 2018 or the cumulative 12-month period to the third quarter of 2018.

B. Gross public debt increased in Latin America as a whole

For the 18 Latin American countries included in figure I.5, gross central government debt climbed, on average, from 39.4% of GDP in 2017 to 42.3% of GDP in 2018. This increase of 2.9 percentage points of GDP reflects the distortion produced by debt levels in Argentina during the year. Excluding this country, the average rose by 0.8 percentage points, up from 38.4% of GDP in 2017 to 39.2% of GDP in 2018. Of the 18 countries for which data are available, gross public debt rose in 14 of them, with the largest increases occurring in Argentina, Costa Rica and Brazil at 38.3, 3.8 and 2.7 percentage points of GDP, respectively.

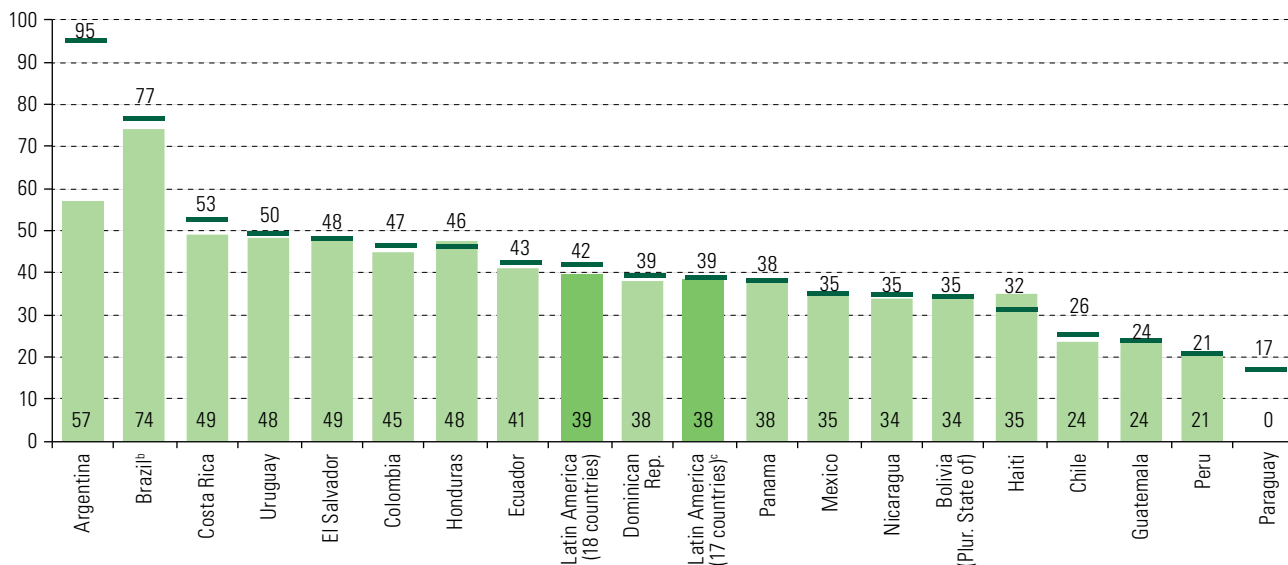
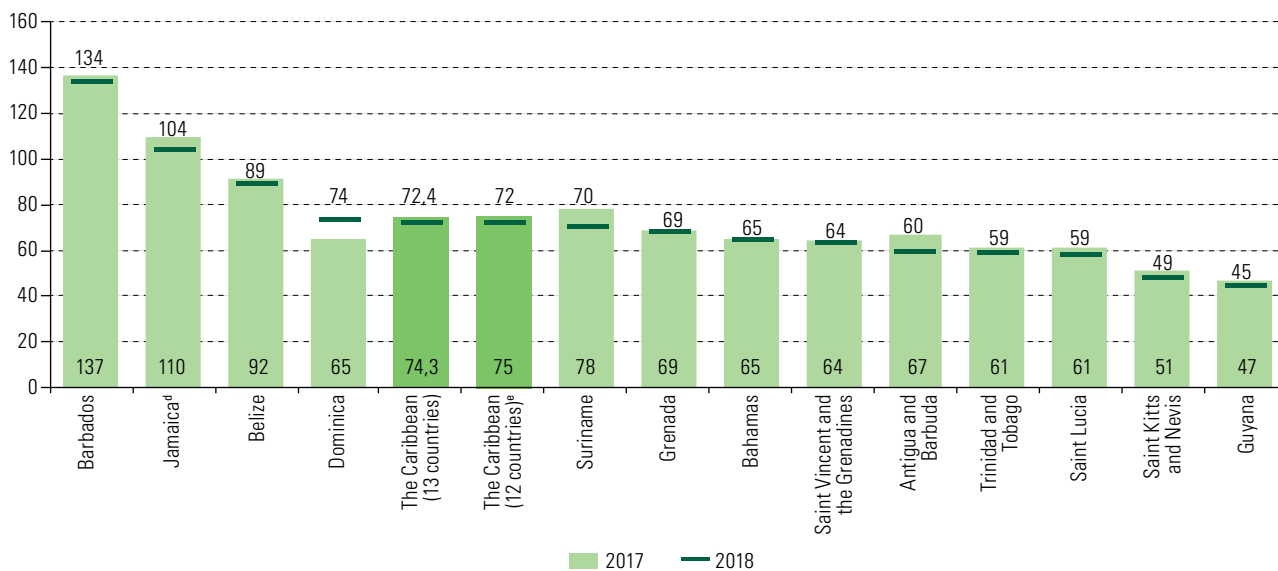
At the national level, the situation in Argentina is particularly noteworthy, as debt levels jumped by more than 38 percentage points of GDP between 2017 and the third quarter of 2018, with gross public debt reaching 95.4% of GDP. As figure I.5 shows, public debt in Brazil and Costa Rica was equivalent to 76.7% and 53% of GDP, respectively. Meanwhile, Paraguay has the region's lowest level of gross public debt (17.3% of GDP), followed by Peru (20.9%) and Guatemala (23.9%). The determining factors of public debt differ from one country to the next (see box I.1).

At the subregional level, debt in Central America remained stable, rising only slightly, by 0.3 percentage points of GDP, to 39.2% of GDP on average in 2018. Only Costa Rica diverged from this trend, with a debt increase of close to 4 percentage points of GDP. In South America, debt climbed by 5.5 percentage points, from 40.0% of GDP in 2017 to 45.5% of GDP in 2018. Increases in most countries for which data are available were lower than this figure, except in Argentina and Brazil. Excluding Argentina, average debt rose by 1.4 percentage points, from 37.9% of GDP in 2017 to 39.3% of GDP in 2018.

Figure I.5

Latin America and the Caribbean: central government gross public debt, 2017–2018

(Percentages of GDP)

A. Latin America (18 countries)^a**B. The Caribbean (13 countries)^a****Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.^a Preliminary figures for 2018.^b The figure for Brazil refers to general government.^c Argentina is not included in the average of Latin America (17 countries).^d The figures for Guyana and Jamaica refer to the public sector.^e Dominica is not included in the average of the Caribbean (12 countries).

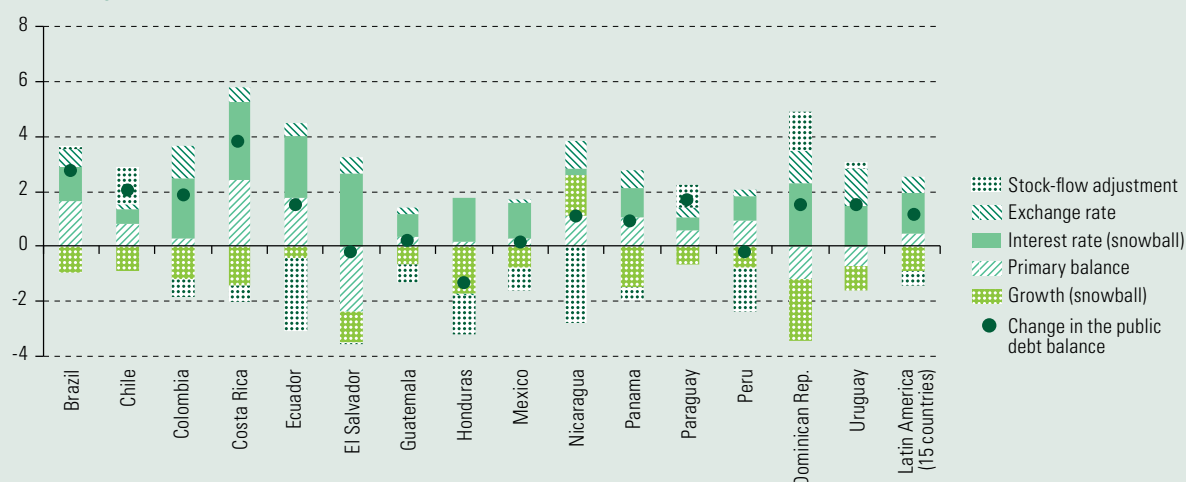
Box I.1

Gross public debt dynamics in Latin America

Public debt levels are affected by a variety of variables, including primary fiscal deficits or surpluses, economic growth rates, interest rates paid on that debt, exchange rates and other exogenous factors, such as debt forgiveness and restructuring.^a

As can be seen in the figure below, the interaction among these variables led to different levels of gross public debt in each country. First, the primary balance in Latin America improved and thus had a smaller impact on debt levels in 2018, except in countries such as Costa Rica, Ecuador and Panama. Second, the effect of growth on public debt was very mixed, reflecting GDP trends in the region, but the Dominican Republic and Nicaragua stood out.

Latin America (15 countries): contributions to variation in public debt, 2017–2018
(Percentage points of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Third, the interest rate contributed significantly to increasing debt levels. The interest rate, according to the methodology used, is an implicit rate calculated as the ratio between interest payments and the public debt balance of the previous period, corrected by the GDP deflator. Therefore, changes in this implicit rate do not necessarily stem from variations in the effective rate but could arise from one-off bond coupon payments or the impact of exchange rate variations on debt service. Thus, weaker contribution of the exchange rate could be explained by the interest rate's greater impact.

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a See Economic Commission for Latin America and the Caribbean (ECLAC), *Economic Survey of Latin America and the Caribbean, 2016* (LC/G.2684-P), Santiago, 2016, for more information on the methodology used in this box.

In the Caribbean, central government debt decreased by almost 2 percentage points to 72.4% of GDP in 2018, compared with 2017. The overall trend is towards a reduction in public debt, with only 2 out of the 13 reporting countries seeing an uptick in debt levels. Although some countries continue to record debt higher than 100% of GDP—such as Barbados and Jamaica with levels of 134% and 104% of GDP, respectively, in 2018—it should be noted that both countries have reduced their debt considerably (see figure I.5). In June 2018 Barbados suspended payments on its external public debt interest and arrears while it negotiates a restructuring agreement with its external creditors.

On average, Latin American countries' interest payments were equivalent to 2.5% of GDP in 2018, up from 2.3% of GDP in 2017. At the subregional level, interest payments amounted to 2.6% of GDP on average for South America, and 2.5% of GDP for the countries of Central America and Mexico.

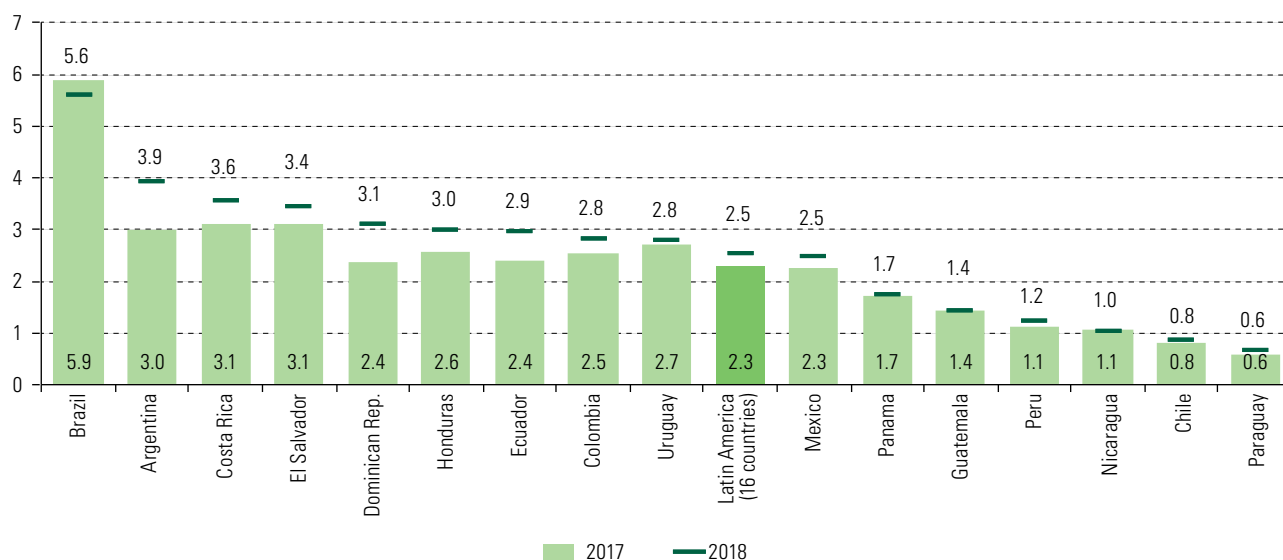
With regard to specific countries, Brazil still had the highest interest payments in the region, at 5.6% of GDP, followed by Argentina and Costa Rica, at 3.9% and 3.6% of GDP, respectively. The main reason for these high rates was the considerable amount of debt that matured in 2018. By contrast, Chile and Paraguay recorded interest payments of less than 1% of GDP.

In the Caribbean, interest payments declined to 3.3% of GDP in 2018, compared with 3.4% of GDP in 2017 (see figure I.6). While Barbados and Jamaica have the heaviest debt burdens, they have also seen the biggest reductions in their debt levels of all the countries in the subregion, which should bring down their interest payments in the coming years.

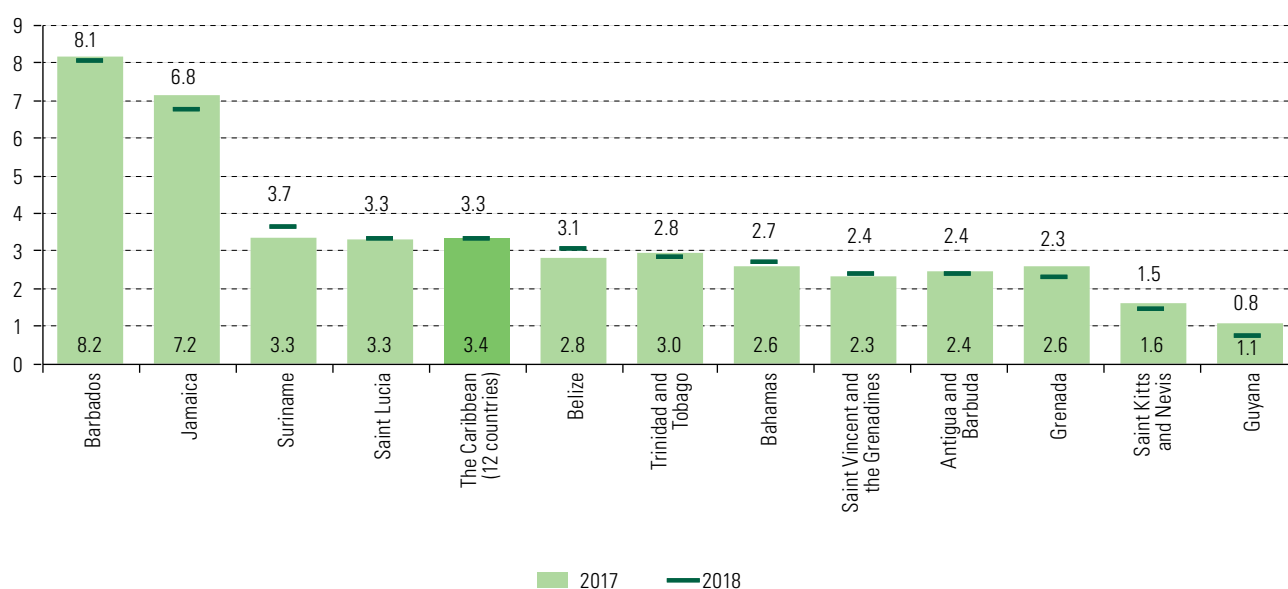
Figure I.6

Latin America and the Caribbean: interest payments on central government gross public debt, 2017 and 2018
(Percentages of GDP)

A. Latin America (16 countries)^a



B. The Caribbean (12 countries)^b



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a Haiti is excluded. The figures for the Dominican Republic, Ecuador, Honduras and Nicaragua are projections based on a cumulative 12-month period to November 2018.

^b Dominica is excluded. The figures for 2018 are projections derived from 2019 budgets, official estimates for the end of 2018 or the cumulative 12-month period to the third quarter of 2018.

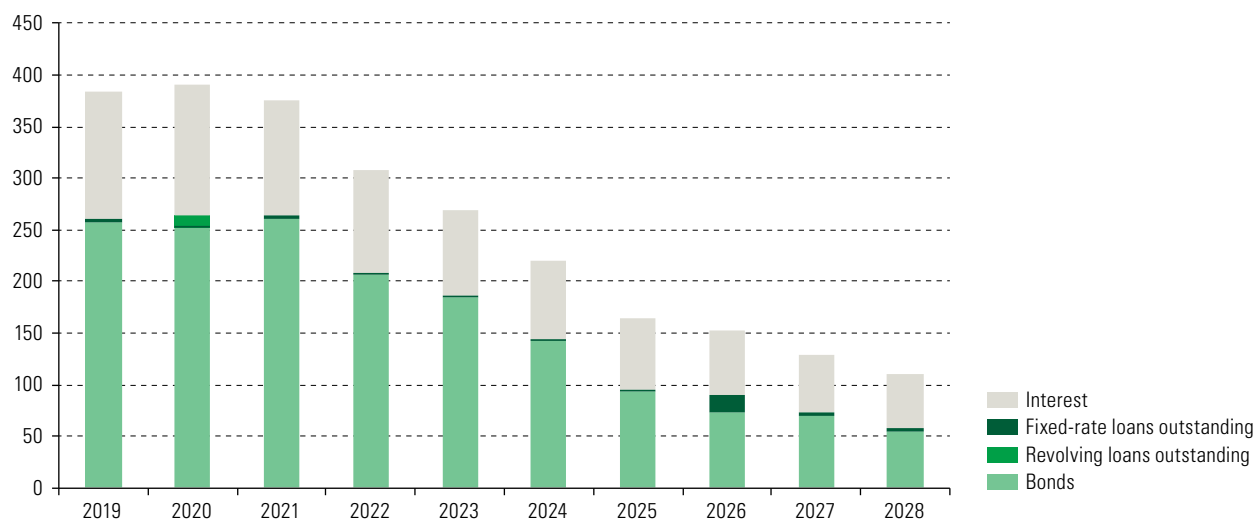
It is also important to analyse future pressure on public debt service —interest and principal payments— in Latin America. Against a backdrop of widespread exchange rate depreciation, a sluggish economic recovery and rising international interest rates, pressure on the cost of public debt appears to be mounting.

As figure I.7 shows, public debt service burden for the coming years, according to Bloomberg data, indicates the region's vulnerability to changes in external conditions and potential exchange-rate and monetary imbalances. In Latin America, total liabilities (principal and coupon payments) for the next five years amount to US\$ 1.7 trillion. Of this figure, 68% corresponds to payments of principal and 32% to coupon payments (interest). The data presented here include public debt instruments traded in a secondary market, which means they do not necessarily correspond to the totals published in each country's fiscal accounts.

With regard to the composition of the public debt service burden for the next five years, the figures show that most of it is denominated in local currency (86%) (see figure I.8). Among other currencies, only the percentage denominated in United States dollars stands out, with 12% of the total. However, if Brazil is excluded, the distribution is very different, as the percentage denominated in local currency falls (69%) and that denominated in dollars (26%) increases. This difference stems mainly from the level of public debt in Brazil, and from the fact that most of it is issued in local currency.

Figure I.7

Latin America (17 countries): public debt service profile, 2019–2028^a
(Billions of dollars)



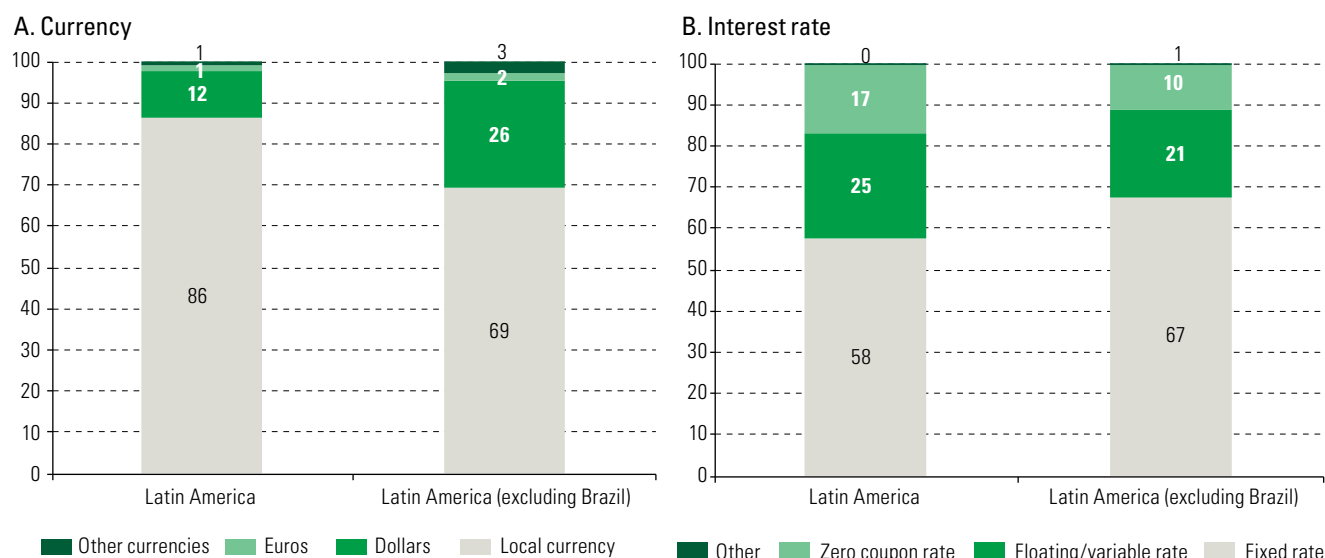
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Bloomberg figures.

Note: The figures refer mainly to instruments traded on a secondary market. The debt profile corresponds to the values recorded in January 2019.

^a Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.

Figure I.8Latin America (17 countries): public debt service burden for the next five years, by currency and interest rate^a

(Percentages)

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Bloomberg figures.^a Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.

Analysis of the interest rates associated with public debt servicing for the next five years shows a high percentage of fixed-rate and zero coupon¹ payments in Latin American countries. As can be seen in figure I.8, payments at floating or variable rates account for 25%, which suggests a certain level of sensitivity to interest rate changes in both domestic and international financial markets. There are notable differences in the interest rate structure when considering Latin America as a whole and when Brazil is excluded, in which case, the percentage of payments at floating or variable rates decreases to 21%, as these instruments account for 28% of the total in Brazil.

A breakdown of the information by country reveals mixed trends in Latin America and in the potential sources of shocks from the external sector and their impact on debt levels. First, among the countries included in table I.1, there are stark differences in terms of the magnitude of the public debt service burden for the next five years. When only principal payments are considered, the figures range from 1% of 2018 GDP for Guatemala and Peru to 40% for Honduras. Against this backdrop, one of the main challenges that countries face is the need to refinance public debt in a less favourable financial market. This could lead to higher interest payments and debt levels.

Second, a relatively large proportion of the total public debt service burden is denominated in dollars at the national level (see table I.1). Although the dollar plays a minor role in aggregate, in most countries, this currency accounts for a significant percentage of the total. Thus, a possible vulnerability is the depreciation of local currencies and its impact on dollar-denominated coupon payments.

¹ Instrument that pays no interest. It is issued at a discount to its face value and, on the date that it matures, it is redeemed for its face value, thus compensating the investor for the fact that no interests is paid.

Table I.1

Latin America (17 countries): breakdown of public debt service, 2019–2023

(Billions of dollars, percentages of GDP and percentages)

Country	Debt service (billions of dollars)			Debt service (percentages of 2018 GDP)			Currency (percentages)			Type of coupon (percentages)			
	Total	Principal	Interest	Total	Principal	Interest	Local currency	Dollars	Other	Fixed	Floating or variable	Zero coupon	Other
Argentina	145	94	51	30	20	11	33	61	6	71	11	16	3
Bolivia (Plurinational State of)	2	1	1	4	3	2	16	84	0	100	0	0	0
Brazil	1000	696	304	52	36	16	98	1	0	51	28	21	0
Chile	25	16	8	8	5	3	87	12	2	100	0	0	0
Colombia	65	38	27	19	11	8	65	17	18	94	0	6	0
Costa Rica	20	13	6	33	22	11	57	43	0	89	9	2	0
Dominican Republic	13	5	8	16	6	10	41	59	0	100	0	0	0
Ecuador	18	11	7	16	10	6	0	100	0	99	0	0	1
El Salvador	4	2	2	16	8	8	0	100	0	87	0	13	0
Guatemala	2	1	1	3	1	1	26	74	0	100	0	0	0
Honduras	13	10	4	56	40	16	90	10	0	97	0	3	0
Mexico	378	278	100	32	23	8	91	6	3	52	36	12	0
Nicaragua	0	0	0	1	1	0	0	34	66	0	0	0	100
Panama	10	5	4	15	8	7	0	96	4	97	0	3	0
Paraguay	2	1	1	4	2	2	4	96	0	100	0	0	0
Peru	18	3	16	8	1	7	80	18	2	96	0	4	0
Uruguay	12	7	6	20	11	10	52	44	4	100	0	0	0

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Bloomberg figures.**Note:** The figures refer mainly to instruments traded on a secondary market.

Third, in the vast majority of countries, these debt instruments incorporate fixed rates, which means that a change in international rates would not necessarily affect interest payments on existing debt (although it would have an impact on the rates applied to new debt issues). In Argentina, Brazil and Mexico, instruments that incorporate floating or variable rates account for a larger percentage of total debt than in the other countries (between 11 % and 36 %). In this case, interest rate changes would have an impact on interest payments in the short term and on public debt.

C. Public spending's contribution to growth remains low

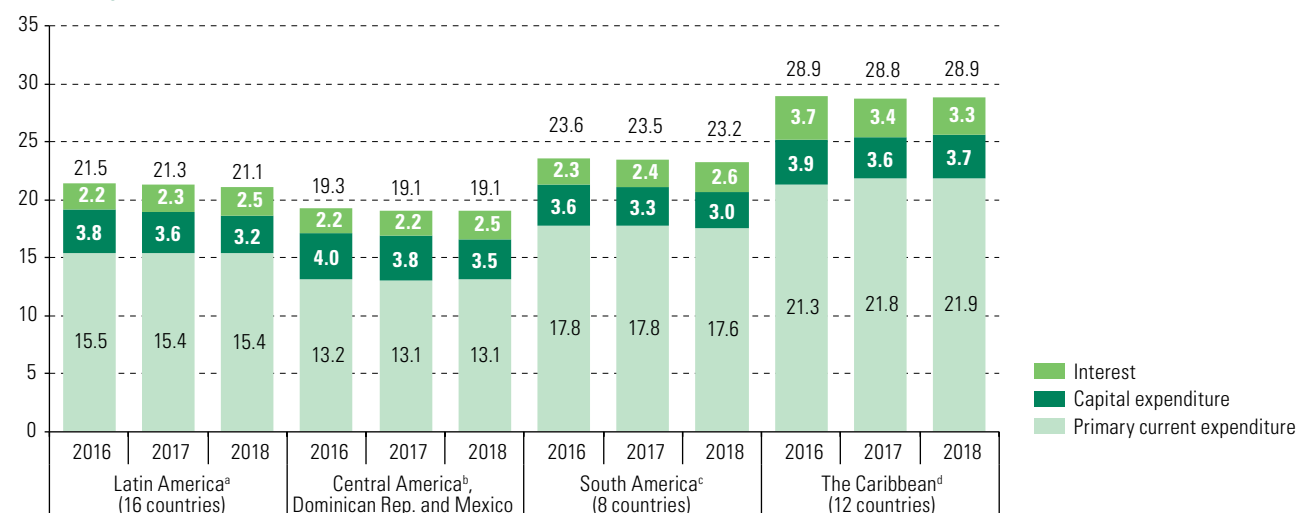
Average total spending in Latin America fell in 2018, to 21.1 % of GDP, compared to 21.3 % in 2017 (see figure I.9). This decrease is due to the decline in total outlays in South America, as outlays were unchanged between 2017 and 2018 in the countries of Central America and Mexico. Despite these different spending patterns, the composition of total spending changed both at the regional level and in each group of countries: interest payments increased, while primary current and capital expenditures decreased.

Latin American countries' average primary current expenditure maintained its 2017 value in 2018, at 15.4 % of GDP. However, trends were varied among the different groups of countries. Primary current expenditure levels were unchanged over the year in Central America and Mexico, while increases of 0.5 percentage points of GDP or more in El Salvador and Mexico offset reductions in other countries. In contrast, this expenditure decreased in South America in 2018, with the most marked reductions in Argentina (1.1 percentage points of GDP) and Colombia (1.2 percentage points of GDP). This fall could put pressure on social spending, given its correlation with primary current expenditure.

Figure I.9

Latin America and the Caribbean: central government spending by subcomponent, 2016–2018

(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Note: The figures are simple averages. Haiti is excluded because of a revision of figures. The figures for the Dominican Republic, Ecuador, Honduras and Nicaragua are projections based on a cumulative 12-month period to November 2018.

^a Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico (federal public sector), Nicaragua, Panama, Paraguay, Peru (general government) and Uruguay.

^b Includes Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama.

^c Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru (general government) and Uruguay.

^d Antigua and Barbuda, Bahamas, Barbados, Belize, Grenada, Guyana, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago.

The economic weight of capital expenditure in Latin America once again declined in 2018. As figure I.9 illustrates, average capital expenditure fell from 3.6% of GDP in 2017 to 3.2% in 2018. The different groups of countries followed the same trend, with similar reductions in Central America, the Dominican Republic and Mexico (down from 3.8% of GDP to 3.5% of GDP) and South America (from 3.3% of GDP to 3.0% of GDP). This component of public spending in Latin America has reached its lowest level since 2007 (3.1% of GDP), after averaging 2.9% between 2000 and 2006. All this suggests that there is little room for further cuts.

As discussed above, interest payments accelerated in 2018, increasing on average for Latin American countries (0.2 percentage points of GDP), Central America and Mexico (0.3 percentage points of GDP) and South America (0.2 percentage points of GDP). This trend has been accompanied by a change in the composition of public spending. As a result, interest payments accounted for 12% of total spending in Latin America, the highest level since 2006 (12.9% of GDP). Similarly, these payments correspond to 13% of total outlays in Central America and Mexico (a level last recorded in 2003) and 11% in South America (the highest level since 2007).

In this context, the fiscal adjustment process has weakened the public sector's role as a source of growth. As figure I.10 shows, public consumption's contribution to GDP growth has been minimal in recent years (0.1 percentage points of GDP or less), compared to 2012 and 2013 (quarterly averages of 0.48 and 0.39 percentage points of GDP, respectively). Given that this calculation is based on a weighted average for the region, the result mainly reflects the performance of primary current expenditure in Brazil, where there was a slight increase in year-on-year change in real terms in 2018.

Figure I.10

Latin America (15 countries): contribution of public consumption to GDP growth, first quarter 2012 to fourth quarter 2018^a
(Percentage points)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a Weighted average of: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Paraguay, Peru and Uruguay. The figures for the third and fourth quarters of 2018 are estimates.

The public sector's contribution to GDP growth is not limited to consumption, but also includes capital expenditure —public investment— figures from national accounts data [ed: addition that is need in Spanish version as well, my error] are not necessarily available in all countries in the region. An approximate calculation of total fiscal impulse can be indirectly determined from the trend in primary expenditure, comprising both primary current expenditure, which corresponds to public consumption, and capital expenditure². As can be seen in figure I.11, the average real year-on-year change in primary expenditure slackened substantially in 2018, falling below the GDP growth rate. The most notable feature of this trend was the sharp contraction in capital expenditure, which impacted growth in primary expenditure and thus reduced its contribution to economic growth.

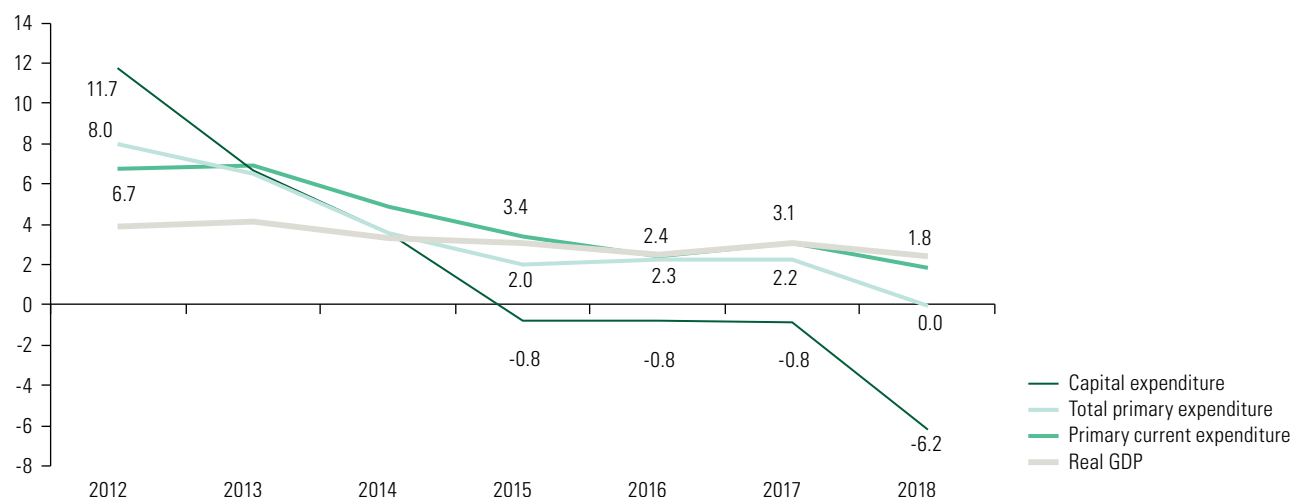
At the national level, the results were very varied, reflecting countries' different macroeconomic and fiscal situations with respect to debt levels and types of spending measures adopted. As figure I.12 shows, with the exception of El Salvador, the variations in total spending ranged from relatively significant reductions to, in a few cases, limited increases. At the same time, the different components of public spending followed very different trends in Latin America.

Capital expenditure fell in most Latin American countries. Specifically, there were contractions of 0.5 percentage points of GDP or more in Argentina (0.6 percentage points), Costa Rica (0.6 percentage points), Mexico (0.5 percentage points), Panama (0.5 percentage points), Paraguay (0.6 percentage points) and the Dominican Republic (0.7 percentage points). At the component level, there were falls in capital transfers in Argentina (to provincial governments), Costa Rica (funded with external resources and destined for investment projects) and the Dominican Republic (high base of comparison as large transfers were made in the previous year in the form of extraordinary contributions for investment projects).

² A variation that surpasses the GDP growth rate can be interpreted as a contribution to growth, and the opposite when the variation is less than that rate. If the variation rate is equal to the GDP growth rate, this means that the contribution of that component to economic growth is close to zero.

Figure I.11

Latin America (15 countries): real year-on-year change in central government primary spending, by subcomponent, and in GDP, 2012–2018^{a,b}
(Percentages)



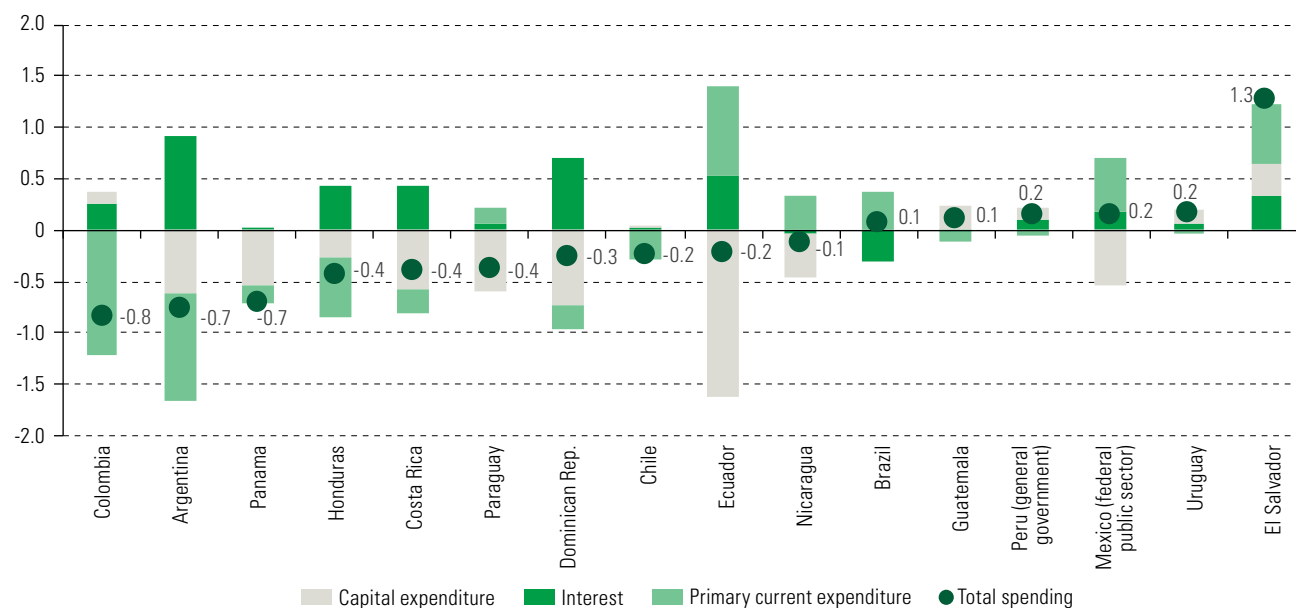
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico (federal public sector), Nicaragua, Panama, Paraguay and Peru (general government).

^b Simple average.

Figure I.12

Latin America (16 countries): year-on-year change in total central government spending by subcomponent, 2017–2018
(Percentage points of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Note: The figures for the Dominican Republic, Ecuador, Honduras and Nicaragua are projections based on a cumulative 12-month period to November 2018.

In Mexico, the decrease in capital expenditure is the result of lower financial investment, given that physical budgetary investment increased slightly. Meanwhile, capital expenditure was reduced in Panama and Paraguay following the completion of certain projects and adjustments to investment budgets. The few countries where capital expenditure increased include Colombia (0.1 percentage points of GDP), El Salvador (0.3 percentage points of GDP), Guatemala (0.2 percentage points of GDP), Peru (0.1 percentage points of GDP) and Uruguay (0.1 percentage points of GDP). Of these, spending levels in El Salvador and Guatemala are particularly noteworthy, with increases explained by greater expenditure on direct investment in fixed assets.

Although primary current expenditure held steady at the regional level, there were significant variations at the national level in several countries. In Argentina, the decline in this component of public spending (1.1 percentage points of GDP) was the result of budget-wide cuts—as part of the major fiscal adjustment required to achieve the targets agreed with the International Monetary Fund (IMF)—, with transfers and wage and salary payments in particular slashed. Similarly, the reduction in transfers in Colombia was key to the fall in primary current expenditure (1.2 percentage points of GDP).

In the Caribbean, total spending was expected to increase slightly in 2018, rising to 28.9% of GDP, compared to 28.8% of GDP in 2017. In contrast to the Latin American countries, capital expenditure, which is set to rise from 3.6% of GDP in 2017 to 3.7% of GDP (including increases in 7 of the 12 countries considered), is mainly responsible for the increase in total spending. The rise in capital expenditure is due, in part, to reconstruction projects, but mostly reflects investments in infrastructure. Interest payments are expected to continue to fall, meaning that primary spending could contribute to GDP growth.

D. Government revenues remain stable on average, but trends differ significantly among countries

In Latin America, total revenues in 2018 were unchanged on 2017, at 18.1% of GDP (see figure I.13). However, this result hides significant divergence in revenue trends in the main countries considered. On one hand, revenues fell in Central America and Mexico (from 16.9% of GDP in 2017 to 16.4% in 2018), as a result of a reduction in non-tax revenues—in some cases because of the comparative base of the previous year when extraordinary revenues were received—and declining tax receipts, especially from taxes linked to consumption.

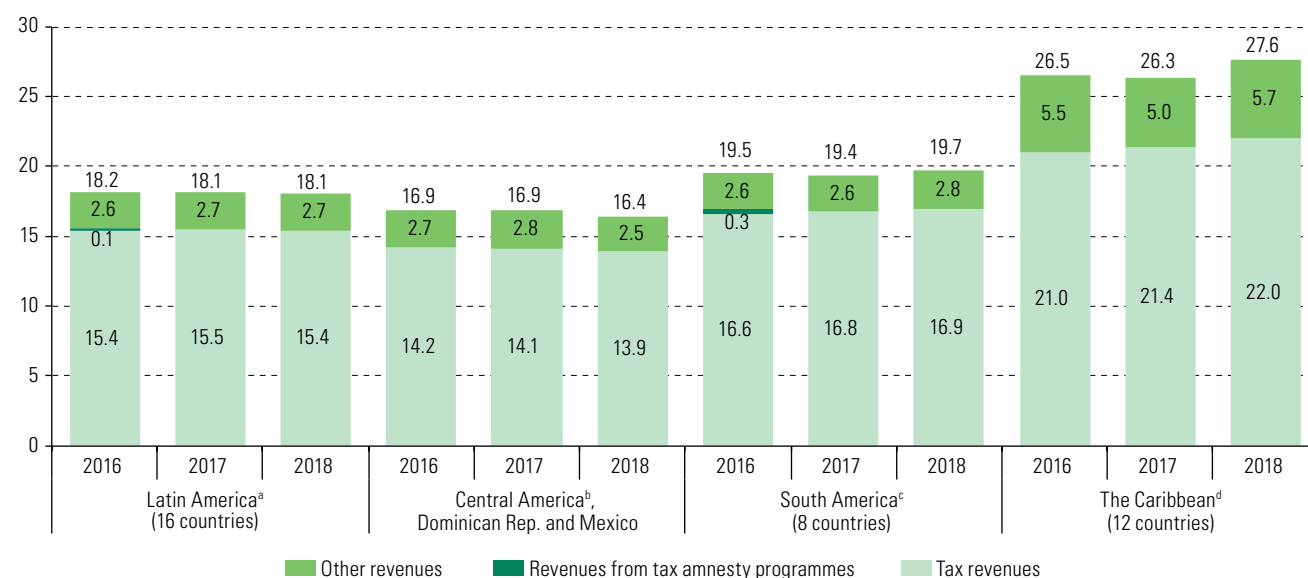
On the other hand, in South America, the upturn in total revenues—up from 19.4% of GDP in 2017 to 19.7% of GDP in 2018—is mainly explained by better macroeconomic performance and the positive impact of higher commodity prices on tax revenues (see box I.2). These factors resulted in an increase in income tax receipts, as well as higher non-tax revenues linked to royalties and interests in the exploitation of non-renewable natural resources.

Despite this relative stability in the regional averages, at the country level the results were very mixed. There were increases of 0.5 percentage points of GDP or more in Brazil, Chile, Ecuador, Peru and Uruguay (see figure I.14). Analysis of these countries suggests three main factors were behind their gains: an upturn in income tax receipts, higher revenues related to foreign trade and certain non-recurring factors specific to each country.

Figure I.13

Latin America and the Caribbean: central government revenue by subcomponent, 2016–2018

(Percentages of GDP)

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.**Note:** The figures are simple averages. Haiti is excluded because of a revision of figures. The figures for the Dominican Republic, Ecuador, Honduras and Nicaragua are projections based on a cumulative 12-month period to November 2018.^a Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico (federal public sector), Nicaragua, Panama, Paraguay, Peru (general government) and Uruguay.^b Includes Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama.^c Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru (general government) and Uruguay.^d Antigua and Barbuda, Bahamas, Barbados, Belize, Grenada, Guyana, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago.**Box I.2**

Fiscal revenues from non-renewable natural resources in Latin America and the Caribbean

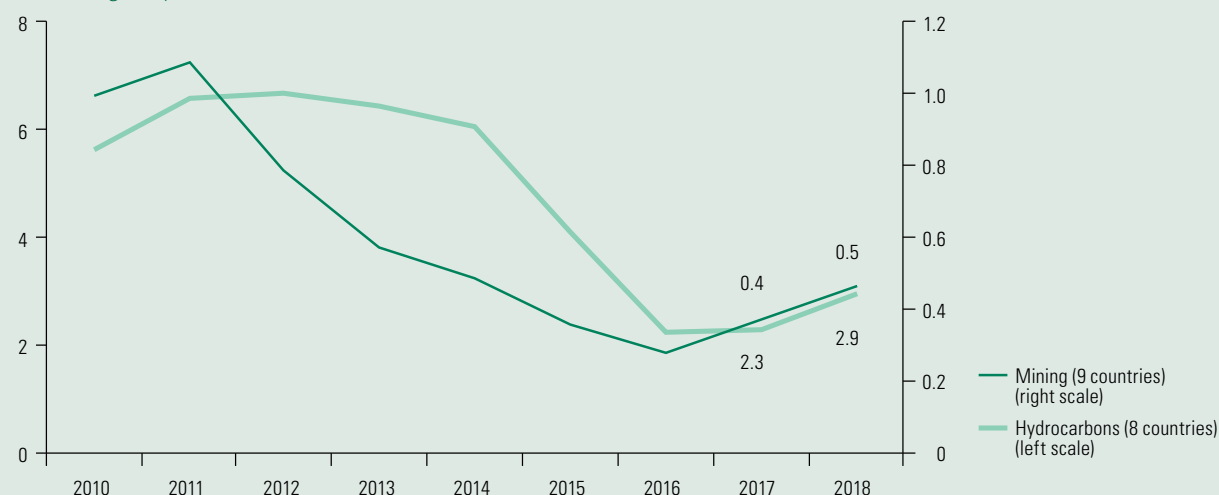
Preliminary figures for 2018 suggest that revenues from non-renewable natural resources increased in most of the countries that are major producers of these commodities. An uptick in crude oil prices resulted in the first increase in fiscal revenues from hydrocarbons since 2012, from an average of 2.3% of GDP in 2017 to 2.9% of GDP in 2018 (see figure opposite). Increases of 0.5 percentage points of GDP or more are projected for Brazil, Colombia, Ecuador and Trinidad and Tobago. This rise is reflected in both tax revenues—owing to the increased profitability of companies in the sector—and non-tax revenues—owing to the increase in the value of crude oil production.

Similarly, strong growth in mineral and metal prices in the first half of 2018 led to an increase in mining revenues, which averaged 0.5% of GDP compared to 0.4% of GDP in 2017. The increases seen in Chile (0.5 percentage points of GDP) and Peru (0.3 percentage points of GDP) are particularly noteworthy, driven by greater corporate income tax payments.

However, a sharp downturn in crude oil, mineral and metal prices in the second half of the year, cast doubt on the sustainability of the revenue increase recorded in 2018. Growing uncertainty over the performance of the global economy, slowing growth in China, rising trade tensions and other factors could lead to stagnation or even a fall in these revenues, with a significant impact on the fiscal accounts of those countries in the region that produce non-renewable resources.

Box I.2 (concluded)

Latin America and the Caribbean: fiscal revenues from non-renewable natural resources, 2010–2018
(Percentages of GDP)



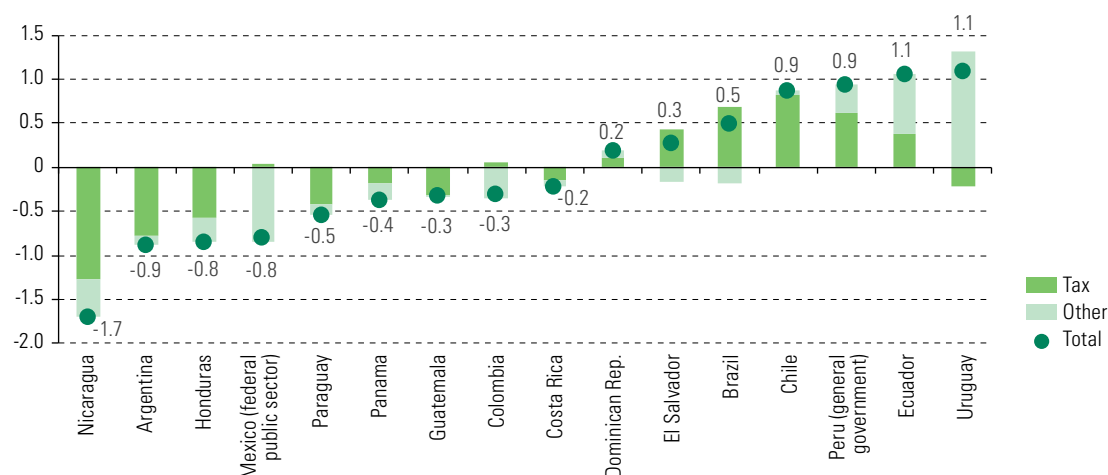
Source: Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT database [online database] <http://estadisticas.cepal.org/cepalstat/portada.html?idioma=english>.

Note: Simple averages. “Hydrocarbons” refers only to exploration and production activities. Includes: Argentina, Brazil, Colombia, Ecuador, Mexico, Peru, the Plurinational State of Bolivia and Trinidad and Tobago. Excludes the Bolivarian Republic of Venezuela and Suriname, owing to a lack of statistical data. The “mining” category includes: Argentina, Brazil, Chile, Colombia, Dominican Republic, Jamaica, Mexico, Peru and Plurinational State of Bolivia. Figures for 2018 are based on official government estimates from 2018 budget documents or preliminary annual figures. When figures for 2018 were not available, they were calculated using monthly data (generally for the first three quarters of the year). When monthly data were not available, 2018 revenues were estimated by taking the year-on-year change in the price of the most representative product (or basket of products in the case of mining) for the country in 2017, expressed in local currency.

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

Figure I.14

Latin America (16 countries): year-on-year change in total central government revenues by subcomponent, 2017–2018
(Percentage points of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Firstly, the economic recovery in the region, together with a favourable trend in commodity prices, gave rise to an uptick in corporate income tax receipts in several countries. Revenues from this tax, which are highly elastic with respect to the aforementioned factors, increased significantly in Chile (0.5 percentage points of GDP) and Peru (0.3 percentage points of GDP, derived primarily from the extractive sector). The improvement in receipts from this tax in Chile was also affected by the tax levied on the sale of shares in a company in the country for US\$ 1 billion in December.³

Secondly, certain countries have also seen substantial upticks in tax receipts associated with foreign trade. In Brazil, although the increase in total revenues is the result of higher takes from a variety of taxes, there were also significant rises in revenues from federal value added tax (VAT) on imports (tax on industrialized products (IVI)) and selective import taxes. In addition, receipts were higher for certain taxes on fuels—including fuel imports—as a result of rate changes.⁴

The improvement in the international price of crude oil boosted Ecuador's oil export revenues, which stood at 2.1% of GDP in 2018 compared to 1.6% of GDP in 2017. In El Salvador, total revenues were up thanks to higher tax income, driven by an increase in the collection of VAT payments linked to imports.

Thirdly, the most notable increase in total revenues for the year was recorded in Uruguay, thanks to the transfer of certain funds to the Social Insurance Bank (BPS) pursuant to Law No. 19,590, enacted in December 2017. This law allows retirees, under certain conditions, to deregister from the mixed social security system and opt to return to the previous pay-as-you-go system. The balances in the individual accounts, managed by pension fund management companies (AFAP), of retirees who choose to deregister are transferred to a trust fund supervised by BPS, which is recorded as consolidated central government revenue.

Meanwhile, as can be seen in figure I.14, total revenues fell considerably (by more than 0.5 percentage points of GDP) in Argentina, Honduras, Nicaragua, Mexico and Paraguay. In general, there were two factors behind this: first, the economic slowdown in certain countries; and, second, a high base of comparison resulting from changes to the tax framework in 2018 or the receipt of extraordinary income in 2017.

In Argentina, the fall in total revenues can be largely explained by the performance of tax receipts, which reflected a decline in income tax payments—in line with the pattern of economic activity—as well as the high base of comparison with 2017, when 0.4% of GDP was received under the tax amnesty programme.

In Mexico, the year-on-year decrease in total revenues mainly reflects the fall in non-tax revenues. In particular, there was a calendar effect on this variation owing to the transfer of the operating surplus of the Bank of Mexico, equivalent to 1.5% of GDP in 2017. However, this fall was partly offset by an increase in revenues linked to the hydrocarbon industry, in keeping with the rise in the international price of crude oil over the year.

In Honduras, there was a drop in tax revenue as a result of changes to income tax (increase in the tax-exempt base) and VAT (exemption of industrial production). In Paraguay, there was a decline in tax revenues associated with social contributions, since extraordinary income was received in 2017 to cover liabilities from previous years. Meanwhile, in Nicaragua there was a drop in receipts from various taxes, but particularly VAT, as a consequence of the current sociopolitical situation.

³ See Budgetary Affairs Bureau, "Informe de ejecución del Gobierno central: cuarto trimestre 2018", Santiago, 2018 [online] http://www.dipres.gob.cl/598/articles-172702_doc_pdf_Presentacion_IT.pdf.

⁴ See Ministry of Finance, "Análise da arrecadação das receitas federais", Brasília, 2018 [online] <http://receita.economia.gov.br/dados/receitadata/arrecadacao/relatorios-do-resultado-da-arrecadacao/arrecadacao-2018/dezembro2018/analise-mensal-dez-2018.pdf>.

In the Caribbean, total revenues increased considerably in 2018, reaching 27.6% of GDP compared to 26.3% of GDP in 2017, owing to both higher tax revenues and the increase in other revenues. In terms of tax revenues, the Bahamas, Barbados, Guyana and Trinidad and Tobago stand out. In the Bahamas, tax receipts rose thanks to the increase in the statutory rate of VAT. Similarly, in Barbados, as part of a fiscal adjustment programme, the rates of various taxes were increased to generate higher tax revenues. In Guyana, a boost was provided by extraordinary income from a tax amnesty, amounting to around 1% of GDP (see box I.2). Tax revenues in Trinidad and Tobago were bolstered by higher income tax receipts, in part due to the application of a differential rate of 35% for commercial banks.

Furthermore, other revenues —comprising non-tax revenues, capital revenues and grants— increased significantly in the Caribbean, from 5.0% of GDP in 2017 to 5.7% of GDP. The increases in Suriname and Saint Kitts and Nevis are particularly noteworthy. In the case of Suriname, non-tax revenues are expected to rise, reflecting buoyant property income as a result of increased gold production. In Saint Kitts and Nevis, revenues are up thanks to growth in income from the citizenship by investment programme, which is estimated to have amounted to 12.3% of GDP in 2018 compared to 6.1% of GDP in 2017.

The income received through citizenship by investment programmes has a significant effect on average non-tax revenues for the Caribbean, owing to its size relative to GDP and the marked year-on-year changes in certain years (see figure I.15). At the country level, this income is significant, representing more than 30% of total revenues in Dominica (estimated at 38.1% in 2018) and Saint Kitts and Nevis (32.6%). Although these inflows have boosted fiscal consolidation processes in these countries, high dependence on this source of income, especially given its volatility, could jeopardize the progress made in recent years.

Figure I.15

The Caribbean (5 countries): fiscal revenues from citizenship by investment programmes
(Percentages of GDP and of total revenues)

A. Percentages of GDP

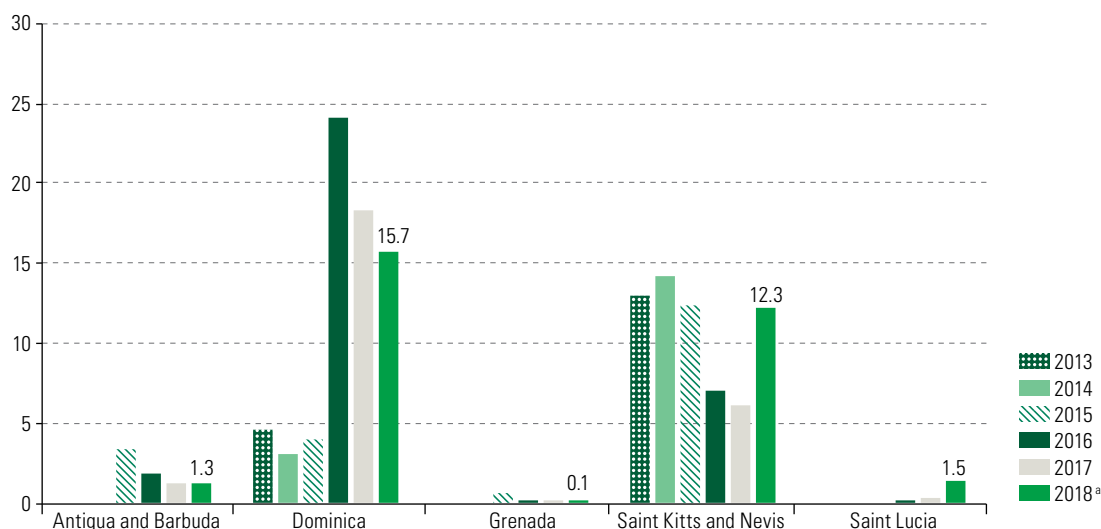
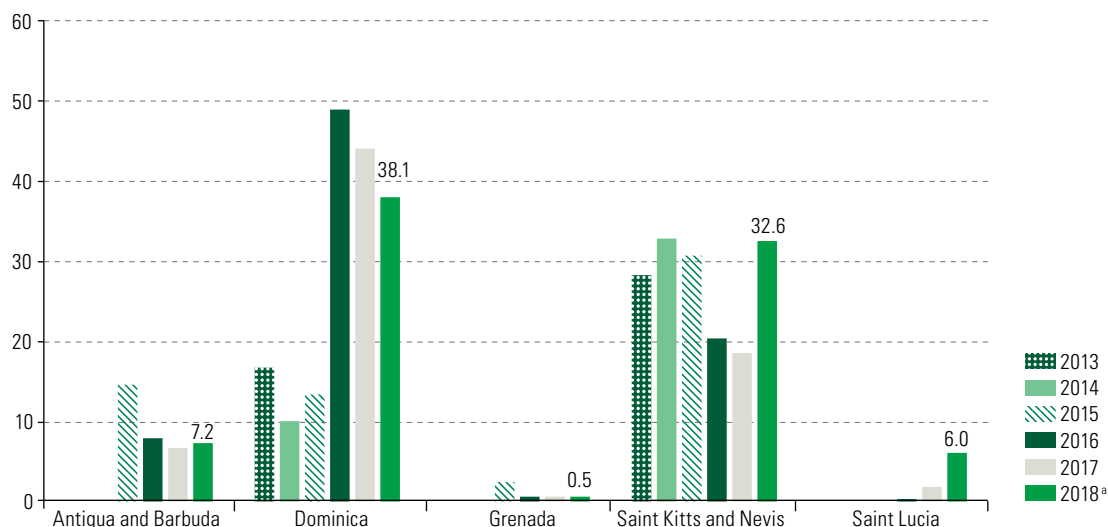


Figure I.15 (concluded)

B. Percentages of total revenues



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Eastern Caribbean Central Bank figures.

Note: Figures for 2018 are estimates based on a cumulative 12-month period through to the third quarter of 2018.

^a Preliminary figures

E. The different dimensions of inequality and fiscal policy challenges

Among the multiple dimensions of inequality, two have warranted particular consideration in fiscal policymaking: the personal distribution of income by household and social and economic disparities among territories. Because of their magnitude and persistence, both dimensions of inequality are of particular concern for Latin America, in terms of analysis and public policy design.

Significant progress has been made in distributive trends at the regional level in the past decade, as evidenced by the decrease in the Gini coefficient, which fell from 0.543 in 2002 to 0.466 in 2017; nonetheless, in international terms, Latin America and the Caribbean remains the world's most unequal region (ECLAC, 2019). However, as highlighted in ECLAC (2019), data from recent years show that the reduction in inequality has slowed, since the annual rates of reduction were 1.3% between 2002 and 2008, 0.8% in 2008–2014 and just 0.3% between 2014 and 2017.

Another key to understanding socioeconomic inequality is the analysis of the structure of ownership of physical and financial assets (ECLAC, 2019), since wealth and extreme wealth are central features of the region's economic structure, but they are not always taxed properly. Recent studies (ECLAC, 2019; IMF, 2014; Amarante and Jiménez, 2015) show the distribution of wealth between families is more unequal than the distribution of income. This aspect of the socioeconomic structure and inequality contrasts with the weak property taxation in the region and the near absence of inheritance tax (Gómez, Jiménez and Martner, 2017).

An alternative that has been gaining ground in recent years is to include other data sources in the analysis, particularly information on income and wealth taken from tax records. In addition to analysis of long-term inequality trends, this information makes it possible to recalculate the inequality indicators derived from household surveys, incorporating part of the missing data on high incomes. In particular, considerable

effort has been made to revitalize studies of the distribution of higher income using information from personal income tax returns, which had been left out of research undertaken using microdata from household surveys (Jiménez and Rossignolo 2019).

Depending on the legislation of each country, income data can be disaggregated by source, which makes it possible to analyse changes in the composition of income (salaried work, capital yields, own-account work, employers, etc.) of the highest brackets.

The added value of using tax information to analyse income lies in the fact that a good number of countries systematically and regularly publish tabulations based on income tax returns. These tabulations present reported income segmented by income bracket before taxes, divided by source of income as appropriate, and reporting deductions that can reduce a person's tax bill.

In addition to those measurement improvements, the research agenda opens up a window for analysing aspects related to the taxation of high incomes, capital and inheritance (Piketty and Zucman, 2013).

Jiménez and Rossignolo (2019) compile the share of income of the richest 1% in some of the countries of the region, in accordance with preliminary estimates, based on tax records.⁵ The richest 1% in Brazil account for more than 25% of income, while in Colombia, Chile and Mexico they hold about 20%, which, if compared to other regions of the world, confirms that the countries of the region are among the most unequal and have the highest rates of income concentration in the world. Moreover, they note that inequality rates, corrected by tax records, are higher than those calculated on the basis of household surveys as they include higher income brackets, because when tax return data is used to correct the Gini coefficient it increases in all cases.

Tax record data can significantly broaden the scope of income distribution studies in the countries of the region, allowing a detailed analysis of high incomes to be carried out, with the possibility of expanding that analysis to cover the tax actually paid by the rich and super rich,⁶ despite limitations relating to tax avoidance, evasion, exemptions and rate changes.

Another dimension to consider when discussing inequality in Latin America is the significant gap that still exists between the rich and poor areas within countries, which is reflected in the differences among the per capita GDP of the regions of a country. In Latin American countries, the ratio between the highest per capita GDP and the lowest generally exceeds 6:1 (with the exception of Uruguay), while in developed countries it is rarely above 3:1 (Brosio, Jiménez and Ruelas, 2018; ECLAC, 2017b; Muñoz, Radics and Bone, 2016). In fact, recent ECLAC documents have discussed the social disadvantages that these differences reproduce and their impact on national fiscal policies in the region (ECLAC, 2016a, 2017a and 2017b). Likewise, Brosio and Jiménez (2015) are of the opinion that a large part of this problem could be explained by the advantage that areas that produce non-renewable natural resources have and, failing that, by the lack of equalization transfer mechanisms between regions that mitigate these differences. These inequalities are, in turn, reflected in intergovernmental public finances, since subnational fiscal capacities are different, both among different levels of government (vertical fiscal imbalance or asymmetry) and between jurisdictions at the same level (horizontal fiscal imbalance or asymmetry), a situation that directly affects the coverage and quality of public goods and services in the territories.

⁵ The Latin American background to this study, albeit with a number of methodological differences, are found in Alvaredo (2011), which uses aggregate data from personal income tax returns from Argentina, classified by income brackets. Studies conducted using microdata from tax returns include Burdín, Esponda and Vigorito (2015) for Uruguay, Alvaredo and Londoño (2013) for Colombia, and López, Figueroa and Gutiérrez (2013), Fairfield and Jorratt (2014) and Friedman and Hofman (2013) for Chile, use a combination of both data sources. Other relevant studies are Campos, Chavez and Esquivel (2014) for Mexico, Medeiros, Souza and Castro (2014) for Brazil and Rossignolo, Villacreses and Oliva (2016) for Ecuador.

⁶ For the distinction between the various definitions of wealth, based on measures of income (flow), wealth (stock) or both, see Jiménez and Solimano (2012).

To address these different dimensions and characteristics of inequality in the region, public redistribution efforts must be adjusted through the provision and coverage of public social spending, intergovernmental transfers and different fiscal instruments to finance that spending. Government social spending in Latin America has grown significantly in the period 2000–2017, up from 8.5% in 2000 and peaking at 11.2% in 2017. However, the rate of growth has slowed in recent years, spending levels remain much lower than those in developed countries, and major challenges persist in financing public policies (ECLAC, 2019).

This analysis is particularly relevant in the current situation, characterized as it is by an uncertain macroeconomic context, a slowdown in the redistributive improvements achieved in recent years, a drop in current public spending and a tightening of the fiscal policy space, at both central and subnational government levels.

With regard to income tax, although progress has been made in recent years, personal income tax revenues remain very low in the countries of the region (around 1.6% of GDP on average in 2017) and they have had a negligible impact in terms of efficiency and equity (ECLAC 2017a; OECD and others, 2018). This trend can be explained by several overlapping factors. Marginal tax rates, which are usually lower than the rates in the developed countries, have been continuously reduced. Moreover, the large number of exemptions, personal allowances, tax expenditures and simplified regimes erodes the tax base and thus leads to reduced receipts. High levels of evasion, avoidance and non-compliance are another factor that helps explain the poor performance of income tax.

With regard to wealth taxes, property taxes have historically been of minor importance in Latin American countries, and in fact virtually absent from the discussions on the fiscal tools that are available to improve the distributive impact of tax systems in the region (ECLAC, 2016b).

Nonetheless, direct property taxation has aroused growing interest in recent years, because besides offering a number of efficiency and equity advantages, it makes it possible to generate a relatively stable flow of tax revenue with few distorting effects. Moreover, these taxes are a potential tool for taxing families in the wealthier sectors, because property wealth is highly concentrated in most of the region's countries (ECLAC, 2016b).

This type of taxation covers a wide range of instruments. Apart from recurrent taxes levied on the ownership or possession of real estate (Ahmad, Brosio and Jiménez, 2018), in Latin America the tax on the transfer of real estate property *inter vivos* (gifts) is also used, along with the tax on automobile ownership, while a few countries, such as Argentina and Uruguay, have also introduced a recurrent tax on net worth.

Real estate property taxation is recognized internationally as the most important source of internally generated income for subnational governments (OECD and others, 2019; Ahmad, Brosio and Jiménez, 2018). In theory, property taxation has major potential to generate a large amount of revenue; it has an immobile tax base, and it does not deplete through time (ECLAC, 2016b). Specifically, in the region's countries, the tax on real estate property is the instrument most widely used as a source of tax revenue in subnational governments, although the manner in which tax bases and rates are assigned between the different levels of government varies (ECLAC, 2016b). The revenue obtained from property taxes is relatively small, on average around 0.3% of GDP, owing to a combination of factors that prevent it from functioning correctly. These include the weak operational capacity of subnational government tax administrations, property registers with low coverage ratios, high levels of arrears and considerable undervaluation of properties owing to the systematic lack of adequate updating of cadastral values (ECLAC, 2016b).

A second property tax with potential importance when taxing high incomes, but which is less widely used in the region than the previous one, is the tax levied on the free transfer of property, either *inter vivos* (gifts) or *mortis causa* (successions, inheritances and

legacies). In practice, the tax encompasses the idea of taxing the net worth transferred. The rates applied tend to be progressive, and in some cases selective, according to taxable event (for example, in the Dominican Republic or Uruguay) (ECLAC, 2016b).⁷ In the region, receipts from this tax are marginal: 0.01 % of GDP on average.

Lastly, despite its potential incidence on the highest taxpayers, only two Latin American countries (Argentina and Uruguay) currently tax wealth or net assets (ECLAC, 2016b). In both cases, the rates are progressive and selective (ECLAC, 2016b). In Argentina, the taxable base corresponds to assets owned by natural persons or undivided estates at a certain date, including possessions abroad. In Uruguay, the taxable base is the property of natural persons, family groups, undivided estates, legal persons incorporated abroad and those subject to the business activities income tax (IRAE), excluding possessions abroad.

With regard to the territorial dimension, as a result of inequalities and their differential impact on subnational public sectors, intergovernmental tax systems have used transfers between different levels of government, making a distinction between those aimed at reducing income disparities between territories of the same country and those aimed at preventing those disparities from giving rise to a differentiated access to public services, that is to say, equalization transfers. The equalization capacity of transfer systems has not improved in the countries of the region over the last decade (Muños, Radics and Bone, 2016; Brosio, Jimenez and Ruelas, 2018) and it can be seen that, in general, these systems redistribute without taking into account fiscal capacity or the exact amount of expenditure needed, which undermines their equalization potential. One way to improve the impact of these instruments could be to introduce explicit tax equalization criteria into the transfer systems.

In short, although the developed world has made notable progress in analysing the shares of high income in the distribution of income and wealth, and in warning about their contribution to income and property tax receipts, much remains to be done, particularly in the case of Latin American countries, where this type of study is quite recent and has been carried out for just a few countries.

This is very important, as it sheds light on what tax and fiscal reforms are still needed in the region to reduce personal and regional inequalities. Collecting higher revenues from and improving the effective scope of taxes on higher-income individuals would improve the distributional impact of tax systems. Further discussion is needed on the structure and composition of those tax measures that can still be considered outstanding in this matter and that basically refer to the structure of taxes on income, personal wealth, inheritances, donations and successions.

In a globalized world with capital mobility and tax havens, taxation at the national level alone will not be sufficient to correct current trends in global inequality and prevent the formation of new economic elites. In this context, international tax arrangements and governance must be improved as a matter of urgency.

The high concentration of wealth and income in the countries of Latin America, which makes it the most unequal region on the planet, calls for a careful approach to the tax system and the reforms to be implemented, which need to take full advantage of its redistributive potential (ECLAC, 2017a). In this context, property and personal income taxes must be strengthened and their revenue-raising and distributive effects enhanced by promoting a general, broad-based tax that includes all a taxpayer's income in its base, in coordination with the different simplified regimes. This comprehensive approach would enhance its impact on equity, whether in terms of the principle of the ability to pay (vertical equity) or of equality of tax treatment for those with equivalent incomes (horizontal equity), even if these come from different sources (wages or capital) or different types of contractual arrangements (wage employment or self-employment).

⁷ For more detailed information on this type of tax and its application in Latin America, see Gómez and Morán (2013).

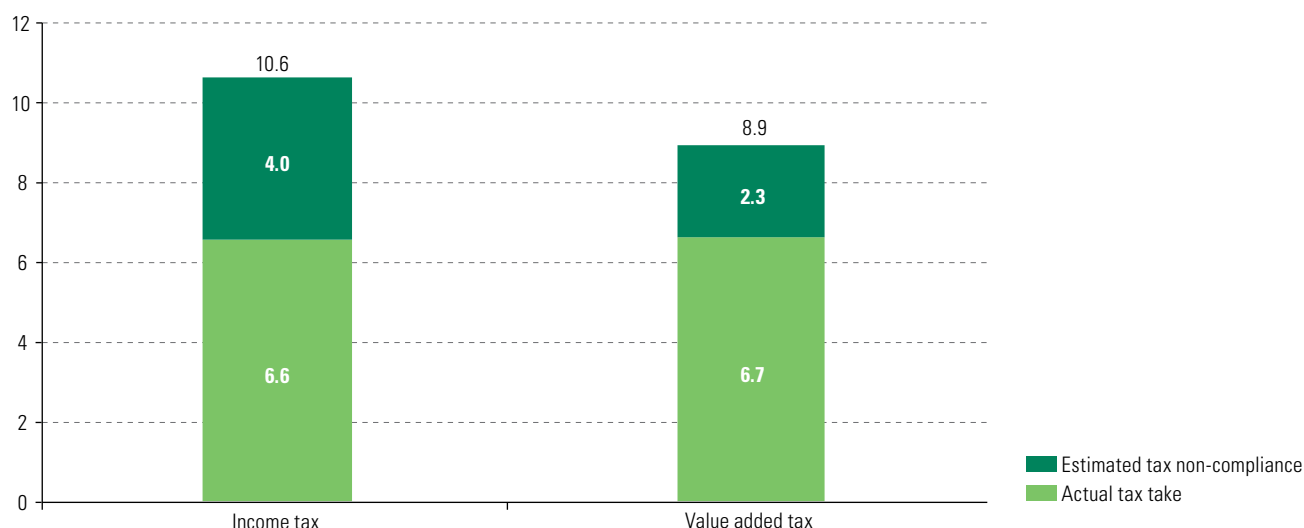
F. Tax evasion and avoidance and illicit financial flows in the region

Tax evasion and avoidance are still major obstacles to the mobilization of domestic resources to finance the 2030 Agenda for Sustainable Development in the region. The most recent estimates by ECLAC of losses associated with income tax and value added tax non-compliance amounted to 6.3% of GDP in 2017, or US\$ 335 billion (see figure I.16). To put this figure in context, total capital expenditure by central governments in Latin America was approximately US\$ 115 billion in 2016.⁸ If countries could reduce a portion of this non-compliance, the additional revenue could provide a major impetus for achieving the social and economic targets of the Sustainable Development Goals.

In the countries of the region, there has been a growing recognition of the importance of addressing this issue, especially in a period characterized by fiscal consolidation. As stated in the *Fiscal Panorama of Latin America and the Caribbean, 2017* (ECLAC, 2017a), a number of countries have undertaken actions to improve fiscal oversight and reduce tax evasion. Most countries have adopted electronic invoicing, which will support the formalization of trade, as well as reducing the scope for evading and avoiding VAT. At the same time, the cross-checking of information from electronic invoicing against administrative records and other databases has led to the detection of irregularities or inconsistencies in tax returns.

Tax regularization programmes also provide a means to address tax non-compliance, while generating windfall gains to boost or offset a decline in public revenues. As can be seen in table I.2, most programmes in the period 2017–2019 were blanket amnesties that sought to liquidate existing tax liabilities by offering certain benefits such as cancelling interest payments on this debt, fines and surcharges. The amount of revenue raised from these programmes is notable, as in the case of Ecuador (1.1% of GDP) and Guyana (0.9% of GDP). In contrast, revenues were lower in Costa Rica, although higher receipts are expected in 2019 as the amnesty came into force at the end of 2018.

Figure I.16
Latin America: income tax and value added tax non-compliance, 2017
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC).

Note: Estimates are based on national studies of income tax and value added tax (VAT) non-compliance. The figures correspond to a weighted average based on GDP at current prices in US dollars. The countries included in the income tax analysis are Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Mexico, Panama, Peru and Uruguay. The VAT analysis covers Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Mexico, Nicaragua, Panama, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.

⁸ Excluding the Bolivian Republic of Venezuela.

Table I.2

Latin America (6 countries): recent regularization programmes, 2017–2019

Country	Type of amnesty	Benefit	Revenues
Costa Rica (2018–2019)	Various taxes	Interest forgiveness, fine reduction (between 40% and 80%, depending on the month in which the taxpayer was given amnesty) ^a	0.2% of GDP (2018)
Ecuador (2018)	Various taxes	Interest, fines and surcharges on tax debts forgiven	1.1% of GDP (actual collection, taxpayers have until 2020 to make their payments) ^b
Guyana (2018)	Various taxes	Interest and fines on tax debt forgiven (between 50% and 100%, depending on the month in which the taxpayer receives the benefit)	0.9% of GDP (preliminary results)
Honduras (2018–2019)	Various taxes	Interest, fines and surcharges on tax debts forgiven	Not applicable
Mexico (2017)	Declaration and repatriation of capital	Preferential rate of 8% on income tax (ISR), fines and surcharges forgiven; capital must be invested for at least 2 years	0.1% of GDP
Peru (2017–2018)	Declaration and repatriation of capital	Preferential rates of 7% and 10%, depending on whether the taxpayer declares the assets or whether the taxpayer repatriates the capital to invest it in the country	0.2% of GDP

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of national legislation and official figures.

^a See Ministry of Finance, “Amnistía tributaria” [online] https://www.hacienda.go.cr/docs/5c1d487deace0_Aviso%20Amnistia%20Tributaria.pdf.

^b See Internal Revenue Service (SRI), “Resultados de la remisión tributaria” [online] <http://www.sri.gob.ec/web/guest/resultados-de-la-remision>.

Mexico and Peru implemented programmes for the declaration and repatriation of capital. Both programmes set a preferential rate for the payment of income tax, as well as the forgiveness of fines and surcharges on the income associated with the assets declared. In Mexico, the capital should be invested in the country for a period of not less than two years. Meanwhile, the programme in Peru offered a rate of 10% for taxpayers who declared their assets and 7% for those who invested that capital in the country. It should be noted that these programmes raised less revenue than those of Argentina (1.8% of GDP), Brazil (0.8% of GDP) and Chile (0.6% of GDP) between 2015 and 2016 (ECLAC, 2017b).

With regard to illicit financial flows, the latest estimates by ECLAC of gross outflows from trade misinvoicing continue to follow a downward trend. In 2016, these flows amounted to US\$ 85 billion, equivalent to 1.5% of regional GDP (see figure I.17). This represents a significant reduction compared with the peaks recorded in 2013 and 2014, when outflows totalled US\$ 100 billion per year. In absolute terms, the decrease between 2013 and 2016 was driven by Argentina, Brazil, Chile, Colombia and Costa Rica, which saw a combined reduction of approximately US\$ 17 billion over that period.

Figure I.17

Latin America and the Caribbean (33 countries): estimated value of trade misinvoicing, 2000–2016 (Millions of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC).

At the product level, the main drivers of this trend are the intermediate sections in global value chains (especially in Brazil, Colombia and Costa Rica), as well as a reduction in outflows related to non-renewable natural resources. In addition to falling in absolute terms, the proportion of outflows in relation to exports of these products and countries also fell during the period, which suggests that this reduction was not simply the result of a drop in exports but also of improvements in the standards of transfer prices and tax and customs administration.

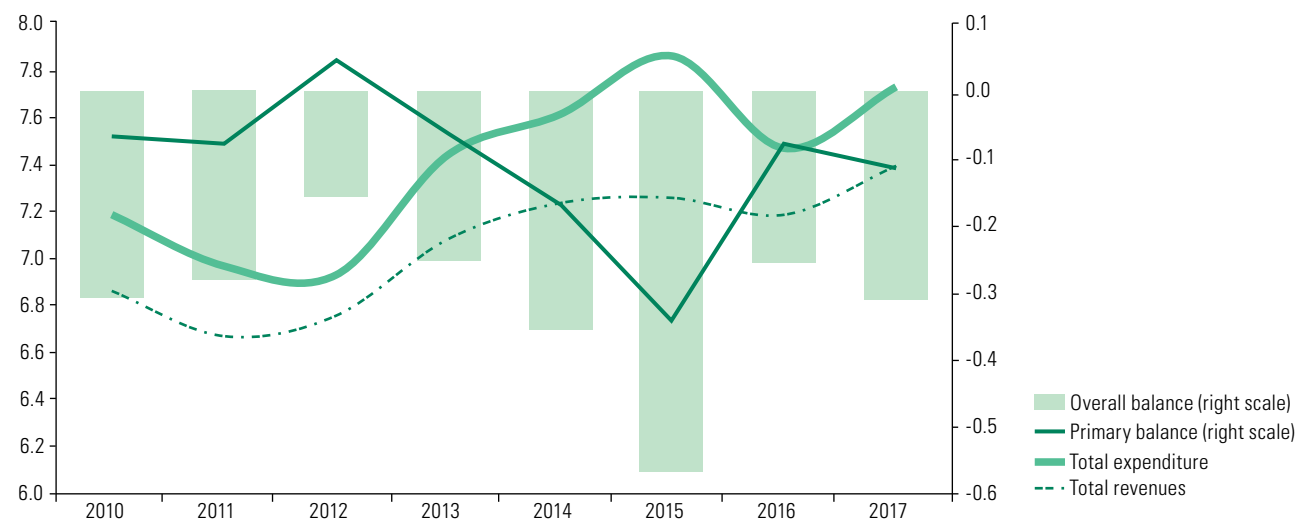
G. Subnational governments' deficits increased in 2017

The fiscal performance of subnational governments (intermediate and local) in the most decentralized countries of the region reflected, on average, an increase in both overall and primary deficits in 2017, driven primarily by growth in subnational fiscal deficits in Argentina, Brazil and Mexico. As figures I.18 and table I.3 show, this trend can be explained by a greater increase in subnational expenditures than in revenues.

This trend in the balance of subnational public accounts has an impact on debt levels. While on average subnational governments' public debt levels remain low in terms of GDP, they have increased slightly in recent years, up from 4.7% of GDP in 2014 to 5.3% of GDP in 2017 (see figure I.19). A disaggregated analysis indicates that the change in 2017 is largely explained by the increases in subnational debt in Argentina (0.5% of GDP).

Figure I.18

Latin America (7 countries): fiscal performance of subnational governments, 2010–2017^a
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Note: The sample of subnational governments is composed of Argentina (provinces), Brazil (states and municipalities), Chile (municipalities), Colombia (departments and municipalities), Costa Rica (municipalities), Mexico (states and municipalities) and Peru (municipalities).

^a Simple averages.

Table I.3

Latin America (10 countries): fiscal performance of subnational governments,
by type of institutional subsector, 2015–2017
(Percentages of GDP)

Country	Governments	2015				2016				2017			
		Revenues	Spending	Primary balance	Global Balance	Revenues	Spending	Primary balance	Global Balance	Revenues	Spending	Primary balance	Global Balance
Argentina	Provinces	15.2	15.9	-0.4	-0.7	15.3	15.9	-0.3	-0.6	17.6	18.4	-0.4	-0.9
Bolivia (Plurinational State of)	Intermediate	...	...	...	...	...	...	...	...	...	...	...	...
Brazil	States	11.7	12.8	-1.1	-1.2	9.8	11.4	-1.5	-1.6	...	...	...	...
	Local	10.9	13.3	-0.9	-2.4	11.0	11.9	0.0	-0.9	11.5	12.5	-0.2	-1.0
Chile	Communes	8.8	8.5	0.5	0.3	8.7	8.2	0.7	0.5	8.8	8.3	0.7	0.5
Colombia	Departments and Municipalities	3.6	3.5	0.1	0.1	3.8	3.7	0.1	0.1	3.8	3.7	0.1	0.1
Costa Rica	Local	11.3	12.2	-0.8	-0.9	9.9	10.7	-0.7	-0.8	10.1	10.6	-0.4	-0.5
Ecuador	Intermediate	1.1	1.2	-0.1	-0.1	1.1	1.3	-0.1	-0.1	1.2	1.3	-0.2	-0.2
Mexico	States	5.0	4.2	0.8	0.8	5.1	4.1	1.0	1.0	...	...	...	...
	Municipal	10.2	10.4	0.2	-0.2	10.1	10.2	0.2	-0.2	8.8	9.5	-0.1	-0.6
Peru	Local	2.0	2.0	0.1	0.0	2.0	1.6	0.6	0.4	2.0	1.5	0.5	0.4
Uruguay	Intermediate	3.1	3.7	-0.6	-0.6	2.8	3.7	-0.9	-0.9	2.9	3.7	-0.8	-0.8

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

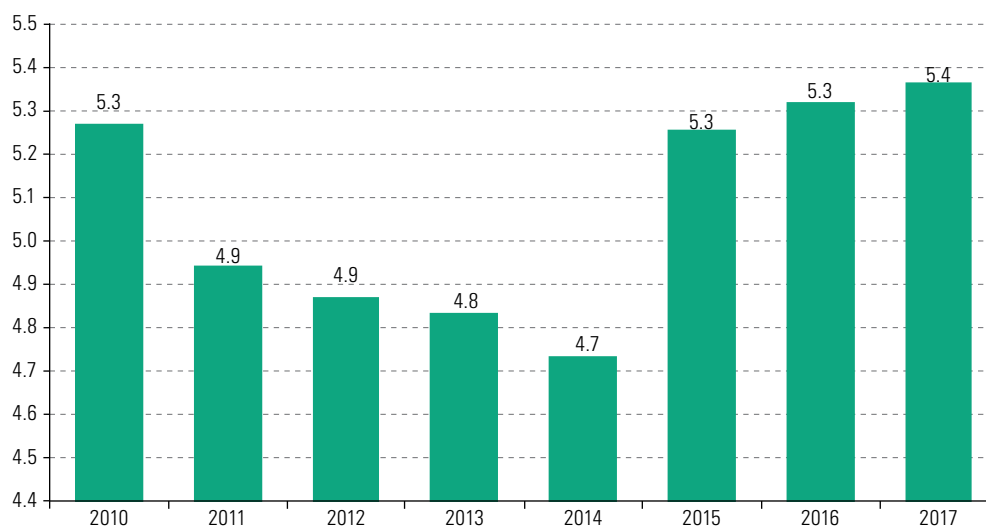


Figure I.19
Latin America
(4 countries): subnational
government public debt,
2010–2017^a
(Percentages of GDP)

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Note: Countries included are Argentina, Brazil, Mexico and Peru.

^a Simple averages.

With regard to tax revenues, following the slowdown in 2015 and 2016, revenues increased from 7.2% of GDP in 2016 to 7.4% in 2017. However, as was noted in the *Fiscal Panorama of Latin America and the Caribbean, 2018*, revenue fluctuations are chiefly the result of the growing importance of central government transfers rather than the more limited increase in tax receipts specific to intermediate and local governments.

The average composition of the financing structure of subnational governments in Latin American countries mask some important differences among countries in terms of the relative weight of tax resources within the total income received by these levels of government. For example, more than half of the income of the states and municipalities of Brazil comes from tax receipts, equivalent to almost 10% of GDP (ECLAC, 2018), while, on the contrary, in the rest of the countries of the region, the main source of subnational governments' public resources is the transfer system that each central government uses to complement the financing of its spending commitments, that is, the provision of public goods for citizens. The central government administrations of countries such as Argentina and Mexico transfer more than 8% of GDP to lower levels of government.

In addition, the tax receipts of subnational governments in the countries of the region have grown very little in the period 2000–2016 (around 0.5% of GDP on average), which contrasts with fiscal revenues at the central government level (about 5% of GDP over the same period). This meagre growth is the result of weaknesses in the level and structure of subnational taxes, which in turn are related to the tax bases available to these levels of government (OECD and others, 2018). Thus, it is clear that subnational governments find it difficult to take advantage of their existing tax powers, as evidenced, for example, by the paltry income generated by property taxes in Latin American countries.

The most recent research, together with available statistical information (Gomez, Jiménez and Martner, 2017; OECD and others, 2017), confirms that, in terms of GDP and in relation to total receipts, wealth taxes do not play a significant role in any of the Latin American tax systems. However, this type of tax is the main instrument available to subnational governments of the region to generate their own resources to finance their spending commitments. Property tax is often the most widely accepted instrument and the most commonly used by subnational governments to raise revenues, even though in most cases they are equivalent to less than 0.7% of GDP (with the exception of Colombia and Uruguay).⁹

With regard to expenditure, subnational total spending rose in 2017, driven by an increase in current expenditure, while capital spending remained almost constant (see figure I.20). Current expenditure increased significantly in Argentina (2.1% of GDP), Brazil (0.6% of GDP), but fell in Mexico and Peru. Meanwhile, capital spending rose in Argentina (1% of GDP) and plummeted in Mexico (2.2% of GDP).

In short, the fiscal space available to subnational governments in the most decentralized countries of the region has been significantly reduced since 2012, in line with the trend seen at the central government level, as a result of higher spending, inefficient use of subnational tax bases (such as property tax) and rising public debt.

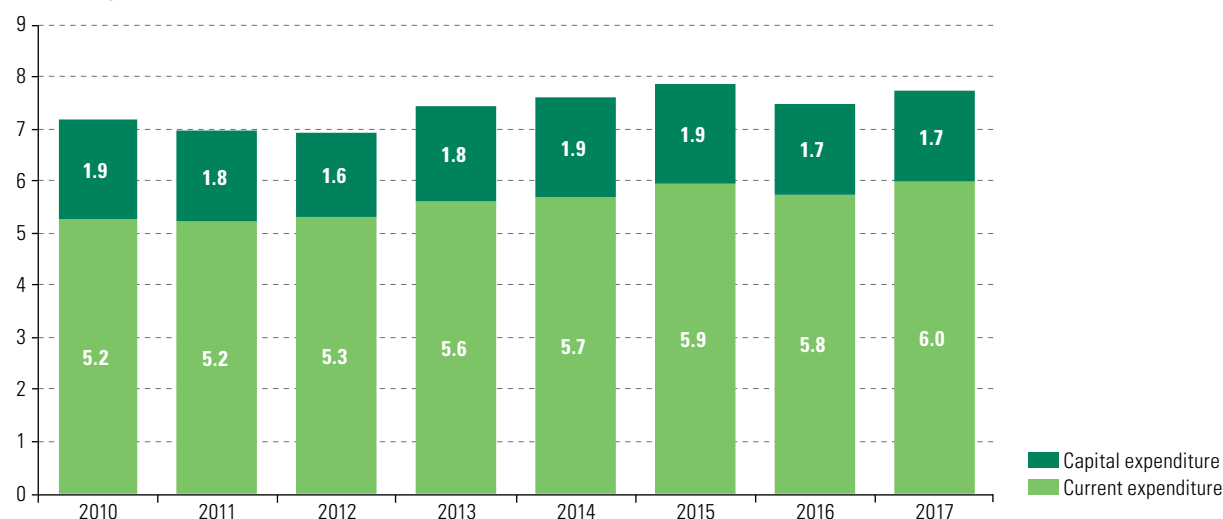
As has been emphasized in this chapter, great territorial inequality is pervasive in the region, which in turn translates into significant differences in subnational fiscal capacities, both among the different levels of government (vertical asymmetry) and among jurisdictions at the same level (horizontal asymmetry). This situation has a direct impact on the public goods and services provided in the territories, leading to uneven coverage and quality.

Given that subnational governments are increasingly responsible for providing basic services such as education, health and infrastructure in several countries of the region, the narrowing of the subnational fiscal space may affect the provision of adequate services at the consolidated public sector level.

⁹ For more details on the performance of property taxes in Latin America, see Martínez Vázquez and Sepúlveda (2012), Gomez, Jiménez and Martner (2017) and Ahmad, Brosio and Jiménez (2018).

Figure I.20Latin America (7 countries): subnational government public spending, 2010–2017^a

(Percentages of GDP)

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.**Note:** The sample of subnational governments comprises Argentina (provinces), Brazil (states and municipalities), Chile (municipalities), Colombia (departments and municipalities), Costa Rica (municipalities), Mexico (states and municipalities) and Peru (municipalities).^a Simple averages.

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CHAPTER

II

Challenges of taxing the digital economy

Introduction

- A. Business models of the digital economy
- B. The taxation challenges arising from the digital economy
- C. Tax reforms and measures implemented in Latin America to address the challenges of the digital economy
- D. Conclusions and outlook

Bibliography

Introduction

The digital economy is the result of the transformation brought about by information and communications technologies (ICTs), which have progressed significantly in the past few decades, reducing the costs of adopting new technologies, improving business processes and strengthening innovation in all economic sectors. The extent of the penetration of different branches of activity by ICTs has led to consensus that the digital economy is no longer just an area of the economy, but an increasingly integral part of it.

The digital share of the overall economy is therefore growing steadily. A study carried out by Accenture Strategy and Oxford Economics (Knickrehm, Berthon and Daugherty, 2016) showed this share for 11 countries in 2015 and projections for 2020. In 2015, the digital share of the economy was larger than 25% in the United States, the United Kingdom, Australia, France and Germany. The United States led the ranking with a digital economy accounting for 33% of GDP, while 43% of employment in its workforce is digital. Moreover, it was projected that, for most economies, the digital share of GDP had the potential to grow by around three percentage points between 2015 and 2020, the equivalent of a 12.5% increase worldwide.

The digital share of the economy is also significant in Latin America, albeit smaller than in developed countries. The same authors produced a report on Chile, in which they compared the weight of the digital economy in Mexico, Argentina, Brazil and Chile in 2016 and projected to 2021. According to this study, the digital share in 2016 came to 15.9% in Mexico, 16.2% in Argentina, 21.6% in Brazil and 22.2% in Chile. Capacity for growth of between two and three percentage points was also projected for 2021.

The weight of the digital economy is directly correlated with the adoption of ICTs. In this respect, large gaps remain between Latin America and developed countries. For example, in the countries of the Organization for Economic Cooperation and Development (OECD), 81% of households have access to the Internet, compared to just 33% of households in Latin America. And in OECD countries, 68% of the population has access to mobile broadband, compared to just 22% of the population in Latin America (García and Iglesias, 2017).

The digitalization of the economy has brought about significant changes in companies' business models and value-creation processes. As a result, from the fiscal standpoint, a series of challenges are emerging with regard to tax policy and oversight, given that tax systems—designed for an earlier time—are hampered by a number of weaknesses that favour the erosion of tax revenues under these new models. For example, digitalization has allowed some businesses to participate actively in certain economic sectors in several countries without necessarily having a significant physical presence there. With regard to value added tax (VAT), it is difficult to tax operations in the place of consumption, especially digital services, given that the seller resides in another jurisdiction. In the case of income tax, in the absence of permanent establishments in the country of operations, the companies' income can only be taxed in the country of residence. Thus, the digitalization of the economy exacerbates profit shifting to low-tax jurisdictions, given the ease of choosing any jurisdiction as a country of residence and operations centre.

In view of the above, taxation and oversight of the digital economy is a priority for many countries around the world, particularly in Latin America. Against this backdrop, the Base Erosion and Profit Shifting Project, led by the OECD and the Group of 20 (G20), considers among the topics for study and proposals, under the title of Action 1, that of addressing the challenges of the digital economy for taxation. The different reports of the project have resulted in a set of recommendations for the countries, some of which are especially relevant to the digital economy. Several countries have also adopted unilateral measures to close tax loopholes and collect taxes on digital economy activities.

The aim of this work is to analyse the challenges posed by the digital economy for tax policy and administration, and to identify and analyse the advances that the countries of the region have made or plan to make in this area.

A. Business models of the digital economy

1. The digital economy ecosystem

The digital economy is difficult to define. It involves a number of elements such as the Internet, broadband networks, hardware, software, digitalization of business processes, new business models and large volumes of data. For the time being, there is some consensus that, at present, as expressed in OECD (2015), there is no point referring to the digital economy as if it were a specific category within the traditional economy, since digital has become an integral part of all branches of the economy.

In order to fully grasp the concept of the digital economy, it would be useful to describe the model of the digital economy ecosystem proposed in ECLAC (2013).

According to this model, the digital economy comprises three main components which, depending on their degree of development and complementarity, determine this economy's maturity in each country. These components are the broadband network infrastructure, the ICT applications industry and the end users.

The basic elements of the broadband network infrastructure are national and international connectivity, local access networks, points of public access and affordability. The ICT applications industry includes software and hardware services, as well as the processes facilitated by these services, namely business processes (for example, financial, accounting and human resources services) and knowledge processes (analytical services, engineering and research and development).

The third component comprises end users, including individuals, businesses and governments, which demand digital applications and services based on the benefits that each expects to obtain. Companies aim to cut costs, increase market share and improve productivity; governments want to improve public services and increase transparency; and individuals hope to improve their quality of life.

The digital economy has facilitating platforms—technological megatrends also known as the “third platform”—which include mobility, cloud computing, social networks and analysis of big data. Social networks, strengthened by the use of various mobile devices (tablets, smartphones and smart watches), generate an enormous quantity of data which, when processed using big data analytical tools, provide inputs—sometimes in real time—for the design of marketing and production strategies. An increasing number of users have access to these mobile devices connected to cloud computing platforms, which allows the sharing of computing and storage resources.

There is also an institutional framework for the complementary factors that determine the impact of ICT investment, such as the economic environment, infrastructure, human resources and the national innovation system.

Lastly, the model suggests that as the digital economy ecosystem develops and matures, it will generate impacts on the economic and social realms. In the economic realm, the effects are felt in productivity, growth and employment. In the social realm, these impacts are felt in education, health, access to information, public services, transparency and participation.

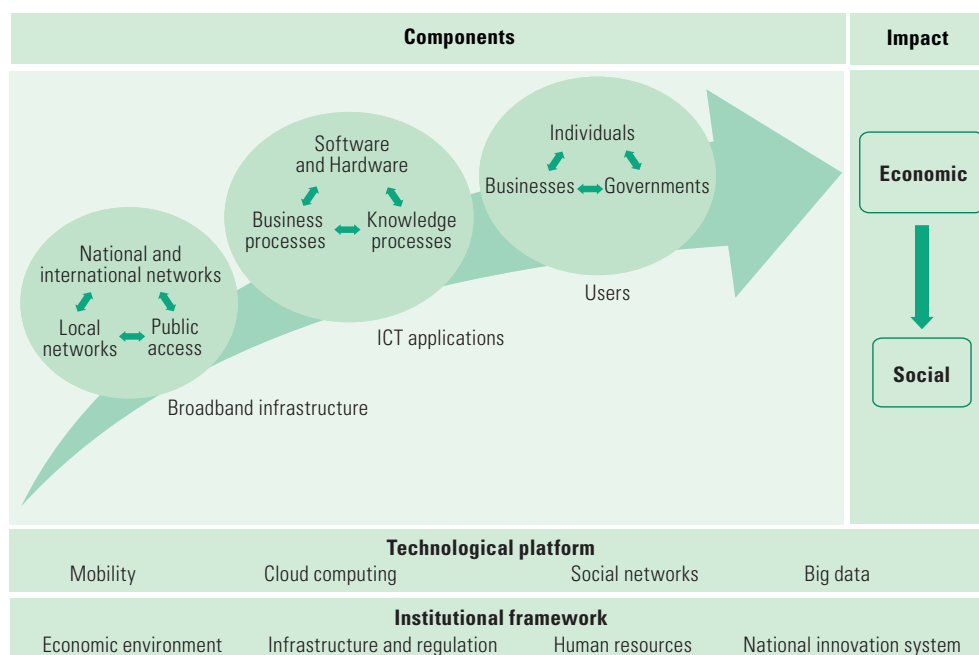


Diagram II.1
The digital economy ecosystem

Source: Economic Commission for Latin America and the Caribbean (ECLAC), *The digital economy for structural change and equality* (LC/L.3602), Santiago, 2013.

Normally, and with good reason, it is assumed that the economic and social impact of the digital economy will be positive in the long run, as shown by some studies that reflect an increase in productivity associated with this phenomenon. However, some challenges will have to be addressed on the road to a mature digital economy.

Digitalization poses several challenges for taxation. With regard to income tax, the first challenge is determining which of the different jurisdictions participating in the commercial transactions will serve as the tax base. Under the traditional rules, the country of residence of the seller has the right to tax, as this is where value is created. The country of residence of the buyer only has the right to tax if the seller has a permanent establishment there. With the digital economy, the participation of end users in the creation of value through the information they provide on social networks is becoming crucial. This would eventually give the consumer country the right to tax non-resident companies in proportion to the added value provided. The digital economy facilitates cross-border business without any physical presence in the customer's country, which indicates that the usefulness of the current definition of permanent establishment should be reconsidered.

With regard to VAT, the digital economy is making it easier for end consumers to acquire services and intangible goods online from non-resident companies with no physical presence in the country. One challenge is collecting VAT from these operations, which is impracticable under traditional rules. Also relating to goods, digitalization allows end consumers to make direct purchases from non-resident suppliers of low-value goods which are normally exempt from VAT given the amounts involved.

A third challenge is the erosion of the tax base owing to avoidance of both income tax and VAT, which is not exclusive to the digital economy, but exacerbated by it.

2. Key features of the digital economy

The digital economy is defined by several characteristics. OECD (2015) highlights six important features from a tax perspective: mobility of intangible assets, users and business functions; use of data; network effects; use of multi-sided business models; tendency towards monopoly or oligopoly; and volatility.

(a) Mobility

First, the mobility of intangible assets. These assets play a central role in value creation for digital economy companies whose activities are linked to the use of software, web pages and computational algorithms, and which invest substantial resources in research and development. Mobility allows intangible assets to be located in any jurisdiction or transferred among different associated businesses, resulting in the potential dissociation between persons with legal ownership of the assets, persons who have fostered their development, and persons who use them to produce income, without violating any tax regulations.

Second, the mobility of users. Advances in ICTs and greater connectivity in the digital economy mean that users are increasingly able to carry out commercial activities remotely. Hence, an individual can reside in one country, purchase an application while staying in a second country and use the application from a third country. Added to this is the difficulty in many cases to identify the place of purchase owing to the use of virtual networks or proxy servers capable of masking the user's location.

Lastly, mobility of business functions is also important. The development of ICTs has reduced the cost of coordinating complex activities over long distances, which allows businesses to manage their global operations on an integrated basis from a central location that may be removed geographically from the locations in which operations are carried out and the locations in which their suppliers and customers are located.

(b) Use of data

The digital economy is characterized by companies' use of data collected about their customers and suppliers, as well as data about their operations. Personal data can be obtained directly and voluntarily from users, for example when they sign up to a platform; or indirectly or passively, as is the case with Internet browsing records or geographical location data; or even inferred, based on analysis of other data.

Although the collection and use of data are not exclusive to the digital economy, this economy has considerably increased the capacity to collect, store and analyse data, in much larger quantities than was possible before. Another difference between the digital economy and the traditional economy is that data analyses were previously limited to samples, whereas today it is possible to have data from the universe of the population of interest.

(c) Network effects

Network effects or externalities refer to the impact that the decisions of some users may have on the benefits obtained by other users. In other words, there is a network effect when the participation of an additional user in a network changes the value of that network for the existing users.

Network effects may be direct or indirect. A network effect is direct when the presence of an additional user on one side of the market affects the value for users on the same side of the market. For example, a text messaging application is not useful if only one person is willing to use it, but its usefulness increases if that person's group of friends or workmates are also interested in using it, and the more users there are, the higher the value created is. This network effect is significant especially, but not exclusively, in social networks, which are based on interaction between people.

Meanwhile, the indirect effect occurs when the presence of an additional user on one side of the market affects the value for other users on the other side of the market. For example, if a new content provider joins a platform that broadcasts audiovisual content, the consumers will benefit.

(d) Multi-sided business models

A multi-sided business model is one based on a market in which multiple distinct groups of people interact through an intermediary or platform that coordinates demand from the different groups. Examples of this type of model are the yellow pages, which provide a way for buyers and sellers to establish contact; television channels, which offer programming to households and broadcast companies' advertisements; or a mobile telephone operating system, which allows developers to offer their applications to mobile phone users.

Given the interdependence of user groups in multi-sided markets, the volume of transactions carried out on the platform depends not only on the total price the platform administrator has set for coordination services, but also on how this price is split between the different market actors.

Most markets with network externalities are multi-sided. In a market with network externalities, platforms can effectively cross-subsidize between different categories of end users that are parties to a transaction (Rochet and Tirole, 2003).

(e) Tendency towards monopoly or oligopoly

Network effects result in relatively concentrated markets. This is because of the positive feedback effect whereby the value of the network increases as this network grows in size, thereby further encouraging growth in the network, which increases the network value, and so forth. The upshot is that in a two-sided market with two platforms that are ex ante identical, a small temporary advantage in the market share for one could, through network effects, be enough for that platform to become the dominant force in the market (Europe Economics, 2016).

Economies of scale also contribute to market concentration. Digital platforms are characterized by high fixed costs of development and low variable costs for operations, which results in a transaction cost that falls as the number of transactions increases (Europe Economics, 2016).

(f) Volatility

The gradual reduction of data processing costs and the fact that no marginal cost must be paid for using the network, combined with increased performance and capital expenditure, have markedly reduced barriers to entry for new Internet-based businesses (OECD, 2015).

3. Common characteristics of digitalized companies

There are three characteristics common to all digitalized companies which give rise to the main tax challenges: cross-jurisdictional scale without mass; heavy reliance on intangible assets, especially intellectual property; and the importance of data, user participation and their synergies with intellectual property (OECD, 2018). Each of these characteristics is described below.

(a) Cross-jurisdictional scale without mass

This first characteristic, also referred to as “scale without mass,” means that digitalization has allowed many companies to access a large number of clients in many countries, without them having to establish a significant physical presence in each one. Globalization has allowed businesses to locate various stages of their production processes across different countries, and to access more markets around the world. Nonetheless, this trend has undoubtedly intensified thanks to digitalization (OECD, 2018).

This characteristic affects, in particular, countries’ ability to collect income tax from non-resident companies. The possibility of being present in many markets without a significant physical presence means that digitalized multinational companies no longer need to build permanent establishments in the countries where they want to operate. Therefore, under the current international taxation rules, these countries lose the right to tax the income of these multinationals.

This also poses problems in terms of VAT, as end users can buy intangible goods and services from companies that are not registered in the country of consumption. Hence, although existing legislation requires VAT to be collected from these operations, this is difficult to implement. Even for the purchase of tangible goods, the small amounts involved can lead to problems with customs inspection or these imports could be protected by exemption thresholds.

(b) Reliance on intangible assets, including intellectual property

The OECD (2018) analysis also shows that digitalized companies are characterized by the growing importance of investment in intangible assets, especially intellectual property assets, which could either be owned by the business or leased from a third party. Intangible assets such as software, websites, algorithms or data compiled from users are fundamental to value creation for digitalized companies. It is important to point out here that for several decades intangible assets have been growing increasingly significant in companies, though this is not an exclusive characteristic of the digital economy. Nonetheless, reliance on intangible assets for value creation has increased with digitalization.

The challenge this poses in terms of taxation is related to the mobility of intangible assets. These can be easily located in low-tax jurisdictions, where the company does not engage in any significant economic activity, in order to divert income.

(c) Data, user participation and their synergies with intellectual property

User participation and analysis of user-generated data contribute significantly to the value creation of highly digitalized companies. User participation allows businesses to collect large quantities of data by monitoring the content generated by users as well as their behaviour. This participation then attracts other users, generating network effects. The importance of user participation in value creation is seen in the case of social networks: Facebook, Instagram, Twitter and YouTube would not exist without it.

4. Business models

The digital transformation has not changed the fundamental nature of the core activities that businesses carry out to generate profits (for example, logistics, operations, marketing and sales), but it has transformed the way in which they are executed, leading to the emergence of new business models and the transformation of old ones (OECD, 2018).

There are different classifications of business models in the digital economy. Each one may serve a specific purpose. For example, OECD (2015) and Balsa and others (2016) provide a classification of e-commerce business models that is useful to analyse taxation through VAT on services and intangible assets. According to this classification, e-commerce can occur between businesses (B2B), between businesses and end users (B2C) or between end users (C2C). For income tax analysis, one suitable classification is that proposed by Hagiu and Wright (2015) and adopted by OECD (2018), which identifies four stylized business models that address the way value is created. These classifications are described below.

(a) E-commerce models

Before examining each modality, a definition of e-commerce is needed. OECD (2011) defines e-commerce as the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders. The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online. OECD (2015) highlights that e-commerce can be used either to facilitate the ordering of goods or services that are then delivered through conventional channels (indirect or offline e-commerce) or to order and deliver goods or services completely electronically (direct or online e-commerce).

(i) Business-to-business (B2B) model

According to OECD (2015), the vast majority of e-commerce consists of transactions in which a business sells products or services to another business. This can include online versions of traditional transactions in which a wholesaler purchases consignments of goods online, which it then sells to consumers from retail outlets, or the provision of goods or services to support other businesses, including: (i) logistics services such as transportation, warehousing and distribution; (ii) network computing services; (iii) outsourcing of support functions for e-commerce, such as web hosting, security and customer care solutions; (iv) auction solutions services for the operation and management of real-time auctions via the Internet; (v) website content management services; and (vi) e-commerce tools that provide automated online purchasing capabilities, among others.

(ii) Business-to-consumer (B2C) model

These involve businesses that sell goods or services to end users. These models fall into two categories: “pureplay” online vendors with no physical stores or offline presence, and “click-and-mortar” businesses that complement traditional physical stores with the option of online purchases.

Another important distinction, considering the problems with VAT, is the type of good or service for sale, which may be tangible (physical or material) or intangible (received by the consumer in an electronic format through a device).

OECD (2015) outlines the following advantages of the B2C model:

- An increasing number of goods and services can be delivered digitally to customers increasingly remote from the location of the seller.
- Dramatically shortened supply chains thanks to the elimination of the need for intermediaries.
- Reduced transaction costs for consumers, particularly search costs, through the increase in access to information.
- Reduced market entry barriers, as the cost of maintaining a website is generally cheaper than installing a traditional bricks-and-mortar retail shop.

(iii) Consumer-to-consumer (C2C) model

This model operates as a multi-sided platform in which businesses play the role of intermediaries, helping individual consumers to sell or rent their assets by publishing their advertisements on websites and facilitating transactions. These businesses have different revenue models, which can be financed through charges to consumers or through advertising.

(b) Classification of business models based on how they create value

The classification proposed by Hagiu and Wright (2015) and adopted by OECD (2018) identifies four stylized business models: multi-sided platforms, resellers, vertically integrated firms and input suppliers. It is important to specify that the classification categorizes business lines and not overall companies. Indeed, a company may have several business lines that use different models.

Each model is described below, according to OECD (2018):

- Multi-sided platforms: as highlighted in section A.2 (d), these platforms allow end users to exchange and transact. The users acting as suppliers maintain the control rights over assets or goods (for example, a taxi driver affiliated with a platform is the owner of the vehicle) and also liabilities towards customers. The end users affiliate with the platform and interact across market sides so that indirect network effects become crucial, for example: Uber, Didi Chuxing, Airbnb, Xiaozhu, BlaBlaCar, Sina Weibo, Amazon Marketplace, Taobao, Facebook, NetEase or Google, Deliveroo, Foodora and Uber Eats.
- Resellers: businesses that acquire products, including control rights, from suppliers and resell them to buyers. Resellers control prices and assume liability towards customers; they do not allow for the interaction of end users and they do not necessarily require customers to affiliate to the online platform. Some examples: Amazon e-commerce, Alibaba, JD.com, Spotify, Tencent's music distribution or Netflix (where it purchases content).
- Vertically integrated firms: businesses that have acquired ownership over suppliers and have thus integrated the supply side of the market within their business. Some examples: Amazon e-commerce (warehousing and logistics), Xiaomi (end user devices and applications), Huawei (hardware and cloud computing) and Netflix (film production).
- Input suppliers: businesses supplying intermediary inputs required for a process of production of goods or services in another firm. In contrast to multi-sided platforms, input suppliers are not intermediaries and interact only with the other firm, and not with the final customer (for example, Intel or Tsinghua Unigroup).

Although these business models have always existed, some have grown stronger as a result of the digital economy. This is especially the case for multi-sided platforms, whose value creation model is based on the concept of a value network, in which user participation and network effects play a fundamental role.

B. The taxation challenges arising from the digital economy

1. Challenges for VAT in the digital economy

(a) Important features of VAT design

VAT is a consumption tax that is applied at each stage of the production chain, but is levied at each stage only on added value, defined as the difference between sales and purchases.

For cross-border transactions, there are two possibilities or principles for application. First, the so-called origin principle, according to which VAT should be levied on goods and services produced domestically, in other words, taxing exports and exempting imports. Second, the destination principle, which proposes charging VAT on goods and services consumed domestically, or taxing imports and exempting exports.

Under a harmonised VAT system, the application of either principle would fulfil the objective of taxing consumption. Indeed, under the origin principle, exempt imports in the country of consumption would be taxed in the country of origin, whereas the opposite would occur under the destination principle, meaning exempt exports in the country of origin would be taxed in the country of consumption.

However, the application of different principles in different jurisdictions leads to problems of double taxation or no taxation at all. If we assume that country A applies the origin principle and country B the destination principle, exports from A to B will be subject to double taxation, while exports from B to A will not be taxed in either jurisdiction.

In the case of VAT on goods, the destination principle is usually applied. However, the same has not happened with VAT on services. Presumably, the scarce exchange of services at a time when VAT was beginning to be applied in the tax systems of many countries led some jurisdictions, for practical reasons, to opt for the origin principle, associating the taxable transaction with the place where the services are provided. As noted in the previous paragraph, this gives rise to situations of double or zero taxation, which has led the OECD to study the issue with the intention of reaching consensus on the principles that should govern the application of VAT to internationally traded services and intangibles. In the same way, this discussion has also been had in the European Union, giving rise more than a decade ago to a modification of the harmonised VAT system, which sought precisely to replace the origin principle with the destination principle.

Although the harmonised application of VAT at origin would help to meet the objective of taxing consumption, there is international consensus on the advantage of application at destination, as this principle gives the tax its main characteristic of neutrality in the value chain and in international trade. This is recognized at least in OECD guideline 3.1 to determine the place of taxation for the cross-border supply of services and intangibles, which notes that for consumption tax purposes, internationally traded services and intangibles should be taxed according to the rules of the jurisdiction of consumption (OECD, 2017a).

However, in order to apply the destination principle to internationally traded services and intangibles, mechanisms must be in place to determine the country or jurisdiction in which consumption is expected to take place. VAT systems require rules to implement the destination principle not only for business-to-consumer (B2C) supplies, which involve final consumption, but also for business-to-business (B2B) supplies, even though such

supplies do not involve final consumption. In the latter case, the rules applied must facilitate the ultimate objective of VAT, which is to tax final consumption at the rate of the country in which it is carried out.

The OECD guidelines on VAT take care of this. Thus, in the case of B2B transactions, guideline 3.2 establishes that the jurisdiction in which the customer is located has the right to levy VAT on internationally traded services or intangibles. It is also applied in the case of companies that have branches or establishments in several countries, where the purchase of services or intangibles is centralized, and they are then used across the different branches. In that case, guideline 3.4 indicates that when the customer has establishments in more than one jurisdiction, the right to levy VAT accrues to the jurisdiction or jurisdictions where the establishments using the service or intangible are located.

With regard to B2C transactions, the right to levy VAT should correspond to the jurisdiction where the services or intangibles are actually consumed, in order to ensure the neutrality of the tax. Nowadays, it is extremely easy for anyone to purchase services and intangibles, through the web, from suppliers located anywhere in the world. The client can also use those services and intangibles in any country in the world, although they are certainly more likely to do so in the country in which they usually reside.

- (i) Against this backdrop, the OECD recommends two general rules for determining the place of application of VAT for B2C supplies of services and intangibles:
- (ii) For supplies that are physically performed at a readily identifiable place and that are ordinarily consumed at the same time and place where they are physically performed in the presence of both the person performing the supply and the person consuming it (e.g. accommodation services, cinemas or restaurants), guideline 3.5 recommends that VAT should be levied at the place of performance.

For other supplies of services and intangibles (e.g. purchase of applications for a mobile phone, software for a computer, subscription to a music and video platform), guideline 3.6 recommends applying VAT in the jurisdiction in which the customer has their usual residence.

These rules effectively allow taxing rights on B2C supplies of services and intangibles to be allocated to the jurisdiction where it can reasonably be assumed that the end user is actually located when consuming the supply.

(b) Problems to be resolved

In international trade in goods, services and intangible assets, the main problems to be resolved relate mainly to B2C transactions where the supplier and the consumer are located in different countries. But also, although probably to a lesser extent, there can be problems of erosion of the tax base in B2B transactions, when the customer is exempt from VAT.

While these problems have existed for a long time, with the digital economy they have considerably worsened, as advances in ICTs have significantly increased the possibilities for final and intermediate consumers to make online purchases from suppliers in any country and, in turn, the possibilities for any business to sell its products to consumers anywhere in the world have grown.

(i) *Exemptions on importation of low-value goods*

Today, anyone can purchase tangible goods from a foreign supplier, provided that the former has access to electronic means of payment and the latter has an e-commerce platform and delivers items abroad.

Conceptually, there is no doubt that in such a case the buyer is importing items which should be subject to VAT in the country where they reside, and this tax is normally collected in customs when the goods enter the country. It is also clear that the seller is exporting the goods, so in their jurisdiction that sale should be taxed at zero rate.

The problem arises because low-value imports are exempt from VAT in almost all countries, which is justified because the administrative costs that customs would incur to collect VAT from these operations could be greater than the tax to be collected.

These exemptions, which serve a practical purpose, were introduced when low-value personal imports were scarce and related mainly to gifts or prizes sent from abroad. However, in recent years, thanks to advances in the digital economy, this type of import has grown exponentially, as shown by the statistics of some countries. Personal purchases of all kinds of goods from stores such as Amazon, AliExpress and others are becoming more frequent. This means that the tax expenditure associated with these exemptions will increase.

In addition, suppliers residing in the country of the consumer are faced with unfair competition, as they are obliged to sell the same products applying VAT. This could also lead some suppliers to seek ways to make those low-value sales from abroad, which would further increase the loss of tax revenue.

(ii) Remote digital supplies to consumers

The digital economy increasingly facilitates distance selling of intangible goods and services to end consumers around the world, without the supplier having a physical presence in the country where its customers reside.

Normally, according to countries' VAT legislation, these transactions are taxed in the country where the services or intangibles are consumed, as suggested by the OECD guidelines. In order to ensure the collection of the tax, in the case of B2B transactions, the reverse charge mechanism is usually applied, transferring the obligation to pay the tax to the resident company that purchases the service or intangible.

In the case of B2C transactions the reverse charge mechanism is not the most appropriate, as end users have no incentive to declare and pay the tax, so a high level of non-compliance could be expected. Instead, it is recommended that non-resident suppliers assume the responsibility of charging, collecting and paying VAT on these transactions, and thus must enrol in the VAT registration system of the country where consumers reside.

In any case, although the VAT laws of several countries require the taxation of services and intangibles purchased abroad by residents, they do not provide for adequate collection mechanisms, so in practice no VAT is applied to digital supplies imported by end users.

In view of the exponential growth in these operations around the world, failure to establish feasible and simple collection procedures can result in increasingly significant losses of tax revenue for countries.

In addition to the loss of revenue, the failure to apply VAT to these operations creates a significant competitive disadvantage for domestic suppliers of the same services and intangibles. In effect, domestic suppliers are obliged to collect and pay VAT on the sale of services and intangibles to resident customers, while non-resident suppliers may structure their activities so as not to apply VAT or, at least, be subject to reduced VAT, depending on the treatment that exports of services and intangibles receive in the country in which they are resident.

This competitive disadvantage may incentivize domestic suppliers to restructure their operations in order to supply services and intangibles from an offshore location in order to avoid paying VAT, further increasing the loss of tax revenue.

(iii) Remote digital supplies to exempt businesses

In the previous section it was mentioned that, for B2B transactions, the jurisdiction in which the customer is located should have the right to levy VAT on supplies of services and intangibles (OECD guideline 3.2), in which case a reverse charge mechanism normally applies, so that it is the customer who withholds and pays VAT.

To the extent that countries do not implement this recommendation, the VAT system may offer companies tax planning opportunities to lower the VAT burden on their products (erosion of the tax base and profit shifting).

In particular, this possibility arises in the case of remote digital supplies to VAT-exempt companies. Exempt companies do not apply VAT to their sales, but must bear as a cost the VAT paid on the purchase of inputs. In other words, like end users, they cannot recover the VAT charged on their purchases, which is finally passed on to their product prices.

Some countries do not require companies to collect and pay VAT on imports of services and intangibles. Tax base erosion is not an issue if a company is a VAT-payer, as it will not withhold VAT on imports but neither will it be able to claim a credit for VAT. However, there is a clear risk of tax base erosion when a company is exempt from VAT, as there is a direct benefit in imported supplies not being subject to VAT.

Similarly, the above situation creates a competitive disadvantage for domestic suppliers of the same services or intangibles, as they are obliged to pay VAT when carrying out transactions with exempt resident companies.

One example of this is the case of multi-sided platforms that connect taxi service providers with customers (such as EasyTaxi or Cabify). In many countries, taxi services are exempt from VAT, so it is more convenient for taxi drivers to adhere to a platform that provides the passenger search service from abroad, since payments for licenses to use the software would be exempt from VAT, whereas the same payments would be taxed with VAT if the platform were administered by a resident company.

(iv) Remote digital supplies to multi-location enterprises

There is also the risk of avoidance (erosion of the tax base and profit shifting) in cases where a multi-location enterprise acquires a digital good or service. It is common for these companies to centralize purchases of services and intangibles in order to achieve economies of scale. The acquisition cost is initially borne by the establishment that has acquired them and, in line with normal business practice, is subsequently re-invoiced to the establishments that use them. However, many VAT jurisdictions do not currently apply VAT to transactions between establishments of a single legal entity (OECD, 2015).

This means that multi-location companies carrying out VAT-exempt activities can ensure that services and intangibles are initially purchased by an establishment located in a jurisdiction with no or relatively low VAT. Subsequently, each establishment would be re-invoiced, depending on their use of those services or intangibles, for transactions that would also be exempt because they correspond to operations between establishments of a single legal entity.

An example of this is what happens in the banking sector, whose services are exempt in most countries. If a multinational bank establishment were to purchase data processing services directly from a domestic supplier, it would be subject to VAT on

those services. Alternatively, this establishment could purchase these services through another establishment of the same entity located in a country that does not charge VAT on such services, and later reimburse the acquisition cost. This would allow the purchase of the above-mentioned services with no obligation to pay VAT in the jurisdiction of the establishment, as VAT is not applied to transactions between establishments of the same legal entity. This type of planning allows VAT-exempt businesses to make substantial VAT savings (OCDE, 2015).

(c) Proposed solutions

(i) Exemptions on importation of low-value goods

Exemption thresholds for low-value imports differ widely from one country to the next. However, in establishing these thresholds, these countries all seek to strike a balance between the administrative costs of applying VAT to these small imports and the potential revenue that could be obtained. Therefore, OECD (2015) considers that the solution to this problem is a drastic simplification of the VAT declaration procedures for these imports, which could allow the reduction or removal of these thresholds.

A radical simplification could also be achieved by encouraging non-resident sellers to register as VAT payers under a simplified regime in the buyer's jurisdiction so that they can withhold and pay the tax.

(ii) Remote digital supplies to consumers

According to the OECD (2015), the most effective and efficient approach to ensure the appropriate collection of VAT on cross-border B2C supplies of services and intangibles is to require non-resident suppliers to register and declare the corresponding VAT in the jurisdiction of the consumer.

For non-resident suppliers —especially SMEs— this may entail considerable compliance costs if they are required to register and account for VAT in all the countries where their customers are located. For the same reason, countries should be able to guarantee simplified registration mechanisms that are sufficiently clear and accessible to sellers that are non-resident SMEs, so that there is no need to set thresholds below which registration is not required. Intermediaries could play an important role in this simplified procedure, as they would be responsible for helping non-resident businesses to register, declare and pay VAT.

It is important to mention that many countries have already adopted this solution with quite good results. For example, the European Union has said that total VAT revenue declared through its simplified compliance regime in 2015 (the first year of operation of the European Union regime) was in excess of 3 billion euros (OECD, 2018).

Some countries have proposed, as an alternative or complement to the collection of VAT from these operations, the withholding of the tax by the financial entities that manage the means of payment used by resident consumers. This alternative has several disadvantages. First, the banking institution has no way of knowing whether or not a payment made to a certain foreign supplier corresponds to purchases subject to VAT. Second, the bank has no certainty that the payment relates to consumption that should be taxed in its jurisdiction. For example, it could correspond to a payment made to Uber for a service contracted and used abroad. Finally, with this method, all transactions paid with bank cards issued by a non-resident bank, or with payment methods not managed by the banking system, fall outside the scope of the tax.

(iii) Remote digital supplies to exempt businesses

In the 2015 report on Action 1 of the Action Plan on Base Erosion and Profit Shifting, the OECD concluded that the solution to the problems of remote digital supplies to exempt businesses was to implement the OECD International VAT/GST Guidelines (OECD, 2015). In particular, guideline 3.2 on place of taxation, which states that for B2B supplies, the jurisdiction in which the customer is located has the right to levy VAT. The practical application of this principle implies the application of a reverse charge mechanism, meaning that the importer of the service or intangible must be responsible for withholding and paying the VAT associated with these operations (OECD, 2017a).

(iv) Remote digital supplies to multi-location enterprises

As in the previous case, the OECD (2015) concluded that the solution to the problems of remote digital supplies to multi-location businesses lies in the implementation of its International VAT/GST Guidelines. In particular, guideline 3.4 on place of taxation, which states that when the customer has establishments in more than one jurisdiction, the right to levy VAT accrues to the jurisdiction or jurisdictions where the establishments using the service or intangible are located. The practical application of this principle implies the application of a reverse charge mechanism, meaning that the establishment that imports the service or intangible must be responsible for withholding and paying the VAT associated with these operations (OECD, 2017a).

Table II.1 presents a summary of the main problems and solutions relating to VAT detailed in sections (b) and (c) above.

Table II.1
Summary of problems
and solutions relating
to VAT

Problem	Proposed solution
(i) Exemptions on importation of low-value goods	Simplify the VAT declaration procedure for these imports in order to reduce or remove the exemption threshold. For example, allow non-resident suppliers to register for VAT and to withhold and pay the tax.
(ii) Remote digital supplies to consumers	Allow non-resident suppliers to register for VAT in the customer's jurisdiction under a simplified regime.
(iii) Remote digital supplies to exempt businesses	Apply OECD guidelines 3.2 and 3.4, which establish that the jurisdiction in which the customer is located has the right to charge VAT, and apply the reverse charge mechanism so that the importing company withholds and pays the VAT.
(iv) Remote digital supplies to multi-location enterprises	Apply OECD guidelines 3.2 and 3.4, which establish that the jurisdiction in which the customer is located has the right to charge VAT, and apply the reverse charge mechanism so that the establishment that uses the service or intangible withholds and pays the VAT.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Organization for Economic Cooperation and Development (OECD), *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*, Paris, OECD Publishing, 2015; OECD, *International VAT/GST Guidelines*, Paris, OECD Publishing, 2017, and OECD, *Tax Challenges Arising from Digitalisation – Interim Report 2018: Inclusive Framework on BEPS*, Paris, OECD Publishing, 2018.

2. Challenges for income tax in the digital economy

(a) Important features of income tax design

The impact of the digital economy on income tax is mainly related to international taxation systems, in particular, the question of how to determine countries' rights to tax income generated by cross-border activities.

Suppose a company X, resident in country A, does business in country B and earns an income R. One of the first questions that the rules of international taxation try to address is the following: which of the two countries has the right to tax R? The answer to this question lies in a concept known as the economic nexus criterion, which is based on the definition of a permanent establishment.

Let us now suppose that once the nexus rules have been applied, it is concluded that country B, or the market country, has the right to tax the income. The second question is: what portion of R should be attributed to the permanent establishment? A second concept is used in this case: the allocation of profits, using the arm's length principle and well-known transfer pricing rules.

- The nexus rule

The nexus concept refers to the search for an economic link between the non-resident company and the State from which the income is obtained (source or market State). At one extreme is the case of a non-resident company that exports its goods to another country, with no other economic link with that country. At the other extreme is the case of a non-resident company that has a physical presence in the other country, with investments, facilities, personnel and development of business functions.

Most tax treaties¹ recognize that business income should be taxed exclusively in the State in which the company is resident, unless the company conducts business in the other State through a permanent establishment located there.

Article 5 of the OECD Model Tax Convention on Income and on Capital defines a permanent establishment as a fixed place of business through which a company carries out all or some of its activity, and includes, inter alia, places of management, branches, offices, factories, workshops, and natural resource extraction sites. The permanent establishment definition is also valid in cases where a person is acting on behalf of the non-resident company and has the power to conclude contracts on behalf of the company. In other words, the permanent establishment necessarily implies the physical presence of the non-resident company in the country where it will carry out economic activities (OECD, 2010).

- Rules for the allocation of profits

For the allocation of profits to a permanent establishment, the application of the competition principle is widely accepted. In the OECD Model Tax Convention on Income and on Capital, this issue is addressed in article 7, which states that the profits attributable in each contracting State to the permanent establishment are the profits it might be expected to make, in particular in its dealings with other parts of the enterprise, if it were a separate and independent enterprise engaged in the same or similar activities under the same or similar conditions, taking into account the functions performed, assets used and risks assumed by the enterprise through the permanent establishment and through the other parts of the enterprise (OECD, 2010).

It is important to point out that these two rules are based on the idea that companies' profits should be taxed where economic activity is carried out and value is created. In the traditional economy, the development of economic activity and the creation of value are practically inseparable from the physical presence of the company. A manufacturing company creates value where production plants are located, business activities are conducted or other major functions are carried out, all physical places where the company's assets and personnel are located.

¹ This is true of the model conventions to avoid double taxation proposed by the OECD and the United Nations.

(b) Problems to be resolved

Advances in the digital economy have led companies operating in markets outside their borders to do so in a radically different way from what was customary when international tax rules were enacted. Thus, the digitalization of the economy raises questions about the validity and effectiveness of the nexus and profit allocation rules described above. Both rules are used to determine where economic activities take place and value is created, thus defining countries' rights to tax income generated in cross-border operations.

The main problems posed by the digital economy are related to these nexus and profit allocation rules, and are a consequence of each common characteristic of digitalized companies, mentioned in section A.3 and of the new business models, analysed in section A.4. These problems or challenges are as follows:

(i) Economic presence without physical presence

The ongoing development of ICTs makes it easier every day to do business in different countries without having a physical presence there, which is a common feature of digitalized companies known as cross-jurisdictional scale without mass (or scale without mass). In other words, it is now possible to build important economic links with the countries where the markets are located, carrying out several tasks that are usually performed by permanent establishments, but without a physical presence. The question then arises as to whether the rules to determine nexus with a jurisdiction for tax purposes are appropriate (OECD, 2018).

One result of this cross-jurisdictional scale without mass is the reduction in the number of jurisdictions where a taxing right can be asserted over the business profits of a multinational enterprise, since permanent establishments are not necessary according to the current definition included in tax treaties (OECD, 2018).

(ii) Allocation of income from intangible assets

The growing importance of intangibles among corporate assets also poses problems for taxation. The mobility of intangibles, mentioned in section A.2(a), allows companies to design strategies to reduce their overall tax burden by locating these assets in low-tax jurisdictions. Thus, in a large number of countries classified as tax havens, approximately 80% of patents have been developed and created abroad (Baquedano, 2016).

In response to this offshoring of intangible assets, some countries offer tax incentives to retain and attract research and development activities, applying reduced rates to the revenues derived from the use of the intangible assets created by these activities. An example of these incentives are the schemes to reduce income from certain intangible assets (patent box regime) implemented in several European countries, such as Belgium, Hungary, Ireland, Italy, Luxembourg, the Netherlands and the United Kingdom (Baquedano, 2016). Undoubtedly, these preferential regimes are creating harmful tax competition among States vying for the income from intangible assets.

It is now also common for several entities of multinational companies located in different countries to participate in the development of intangible assets. In this scenario, the returns on these intangible assets should be distributed among the different entities that participated in their creation, a complex process which involves, for example, determining the value of the contribution of each one.

Similarly, some multinational companies transfer legal ownership of their intangible assets to a specific subsidiary. That subsidiary could be located in a low-tax country as a strategy to reduce the overall tax burden. But even if this is not the case, the question arises as to whether the income generated by intangible assets should necessarily

be attributed to the entity that legally owns them, be it a permanent establishment or a separate legal entity. The OECD transfer pricing guidelines indicate that this is not necessarily the case, since what is relevant is which companies or entities belonging to the business group performed the relevant functions for the development of the intangible asset. In this case, there is an obvious difficulty in applying transfer pricing rules, since the intangible goods developed in the digital economy have unique characteristics, and there are no comparable assets that would allow them to be valued in order to apply the arm's length principle.

(iii) Customers' contribution to value creation

User or customer participation can help to create value for companies in a number of ways. For example, on the basis of these data, companies can better segment their customers, adapting their offering to group or individual characteristics. Companies can also obtain data about their customers' activities on the Internet, such as the sites they visit or the searches they perform, and then show them advertisements tailored to their interests. Another particularly important contribution to value creation is active participation in multi-sided digital platforms where value increases with the number of users owing to network effects.

One of the first tax problems arises because users' contributions to the creation of value may occur in a jurisdiction where the company does not have a physical presence, so according to the current international taxation system, the company does not have a permanent establishment, and it is impossible to tax the profits generated thanks to the contributions of the users in that jurisdiction.

Another problem is that, even if the company has a permanent establishment in the jurisdiction of the users, under the current profit allocation rules, the value created is not taken into consideration when determining the proportion of taxes that should be allocated to each country.

(c) Proposed solutions

The OECD and the G20 have systematically analysed the above-mentioned problems, as well as their possible solutions, in the context of the Base Erosion and Profit Shifting Project, which developed 15 strategic areas of work designed to combat tax base erosion and profit shifting through a series of technical recommendations. The first strategic area of work, or Action 1, refers precisely to the tax challenges arising from the digital economy and addresses most of the challenges identified in the previous section.

Long-term solutions are likely to be directed towards a new definition of nexus, based on the concept of "significant economic presence" or "taxable digital presence", defined on the basis of factors that demonstrate decided and sustained interaction with a country's economy through technology and other automated tools, without a physical presence. Some countries have adopted unilateral measures along these lines.²

Additionally, the interim report published by the OECD (2018) states that it will take time to reach consensus on a solution to the income tax challenges arising from digitalization. In fact, there is still no agreement among countries as to whether the tax issues arising from the digitalization of the economy require changes to international tax principles, and if so, what changes would be appropriate.

However, the report recognizes that in some countries there is some urgency to take more immediate action to address these challenges, especially in relation to digitalized companies that have a significant market presence but little physical presence, and that

² For example, Israel and India. Both experiences are described in OECD (2018), boxes 4.1 and 4.2, respectively.

have business models that rely heavily on intangible assets, data, user participation, and network effects. Several of these countries have introduced, or are considering introducing, provisional measures. In particular, a sort of consumption tax on the supply of certain e-services, which would be levied on gross revenue.

For this reason, the report, without suggesting specific measures, mentions a series of considerations to be taken into account when designing provisional measures. These measures should:

(a) Respect the country's tax treaties

They should not come into conflict with tax treaties, so should not be taxes on income, as these are regulated by the treaties. They should be taxes on consumption which, ideally, are levied on the supply itself rather than on the supplier, are charged a fixed rate and are not creditable against income tax.

(b) Be temporary

They should cease to apply once a global response to the tax challenges arising from digitalization has been agreed and is implemented.

(c) Be targeted

- The measures should target companies that are perceived to constitute the highest risk, meaning that they have an economic presence without a physical presence (scale without mass) and business models that depend heavily on user participation and network effects.
- They should not apply to physical goods supplies simply because the sales contract is concluded online.
- They should be restricted to specific e-services and not apply to all services simply because they are provided over the Internet. Such a broad definition of e-services would capture businesses where the intensity of user participation in value creation is relatively low.
- A generalised provisional tax on all e-services can lead to inefficiencies and planning opportunities. For example, a tax on all online services, but not on the online sale of goods, would tax the online delivery of music, software, films or books, but not the delivery of the same products in tangible form.

(d) Minimize over-taxation

The tax rate should be proportionate to the profit margins of the companies to which it will be applied.

(e) Minimize the impact on business creation and SMEs

To this end, two gross income thresholds should be established: one for overall income and one for income in the country. Only companies that exceed both thresholds should register for and pay the provisional tax.

(f) Minimize cost and complexity

The provisional tax should be as simple as possible, to minimize compliance costs and administrative costs.

The European Union, through a Council Directive, has proposed a provisional tax called the digital services tax, which takes all the above-mentioned considerations into account. Box II.1 summarizes the main characteristics of this tax.

First, it should be noted that digital services provided by non-resident companies are subject to VAT in the countries of the European Union to the extent that they are used or consumed in those territories. This means that the same OECD guidelines summarised in section B.1.c are generally applied.

The digital services tax, however, is an interim solution to the income tax problems arising from the digital economy related to the misalignment between the place where the profits are taxed and the place where value is created, particularly in the case of business models that rely heavily on user participation.

The specific objective of the European Union's proposal is to introduce a measure which applies to revenue from the provision of certain digital services and which is easy to implement and helps to create a level playing field during the transitional period, pending the adoption of an overall solution.

The digital services tax is a tax with a targeted scope, levied on the revenues from the supply of certain digital services where user participation is essential to value creation and allows the businesses providing these services to obtain revenues therefrom.

For this tax, taxable income is that derived from the provision of the following services:

1. Services consisting in the inclusion in a digital interface of advertising targeting users of that interface, as well as the transmission of data collected about users which have been generated by these users' activities on the digital interfaces.^a
2. Services consisting in making available to users multi-sided digital interfaces, which may also be referred to as "intermediation services", enabling them to locate and interact with other users, and which may also facilitate the provision of underlying supplies of goods or services directly between users.^b

The payers of this tax would be companies with total worldwide annual revenues in excess of 750 million euros and revenues in the European Union in excess of 50 million euros. These thresholds aim to tax companies that have achieved strong market positions that allow them to benefit more from network effects and data exploitation and that therefore base their business models on user participation.

The proposed rate for this tax is 3%, applicable to gross income. The revenue would be collected by the member States where the users are located, and it is estimated that 5 billion euros per year could be generated for the member States.

This tax has not yet been implemented. Spain took the initiative and submitted a bill for approval in October 2018. However, some countries have raised objections, such as Denmark, Finland, Ireland and Sweden. The initiative is not expected to be implemented before 2021.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of European Commission, "Proposal for a Council Directive on the common system of a digital services tax on revenues resulting from the provision of certain digital services", Brussels, 21 March 2018.

^a This would apply, for example, to revenue from advertising targeting users on Google or Facebook.

^b This would apply, for example, to revenues from the intermediation services of companies such as Airbnb, Uber or Amazon Marketplace, but would not apply to revenues of companies such as Netflix, Spotify or Amazon e-commerce that use the reseller business model in which interaction between users is not fundamental to value creation.

Box II.1

European Union: digital services tax

C. Tax reforms and measures implemented in Latin America to address the challenges of the digital economy

This section describes the main actions taken by Latin American countries to meet the challenges of digitalization of the economy. These include measures to make legal changes, as well as administrative measures. The legal changes comprise measures that have already been implemented and bills that are being debated in parliament. More precise technical descriptions of the changes that have been implemented or proposed by the countries are provided in boxes II.2 to II.7.

Overall, 8 countries were identified that have applied initiatives related to taxation of digital services, from a total of 16 countries analysed. Of these eight countries, legal changes have been made in five (Argentina, Colombia, Costa Rica, Peru and Uruguay), bills have been introduced in two (Chile and Mexico) and an administrative procedure is being designed in another (Paraguay).

Most of the initiatives are related to the inclusion of cross-border digital services in the taxable base for VAT. Only Peru and Uruguay have amended their legislation to levy income tax on certain digital services, while in Mexico there is a parliamentary initiative in the same vein.

1. VAT initiatives

In the case of services, VAT legislation in Latin American countries tends to apply a hybrid of the origin and destination principles. As a result, in many cases the tax is not in principle levied on digital services provided by non-resident companies and a special taxable event must be created for this purpose. This path has been followed by Argentina, Colombia and Uruguay, which amended their VAT law so that digital services rendered from abroad would be covered by the tax.

For example, in the case of Argentina, the law initially applies the origin principle, by stipulating that VAT shall be levied on the works, leases and services expressly mentioned in the VAT law when they are carried out in national territory. However, later in the same provision, two exceptions to this principle are provided, exempting exports of services from taxation and taxing imports of services by VAT-paying companies (B2B transactions). Specifically, prior to the 2017 tax reform, Argentine law did not levy VAT on imports of services by natural persons or legal persons that were not registered as VAT payers. In particular, digital services rendered from abroad to the above-mentioned persons fell outside the scope of the tax.

Thus, the Argentine reform extends the events taxed with VAT to include digital services rendered by non-resident companies, provided that the services are effectively used or employed in the country. The definition of digital services is quite broad (see box II.2). Parameters such as IP address, SIM card country code and billing address are used to determine if consumption takes place in the country.

Box II.2

Argentina: inclusion in VAT of digital services rendered by non-residents

In 2017, the Government of Argentina embarked upon a tax reform that was approved in December of the same year.^a As regards taxation of the digital economy, the reform broadens the scope of VAT to include digital services rendered by legal or natural persons resident or domiciled abroad, provided that the services are effectively used or employed in the country. According to Ministry of Finance officials, the approved amendment seeks to “put local providers on an equal footing with providers that are resident or domiciled abroad” (Ministry of Finance, 2018).

For these purposes, digital services are considered to be those provided through the Internet or any adaptation or application of the protocols, platforms or technology used by the Internet or another network through which equivalent services are provided which, by their nature, are essentially automated and require minimal human involvement.

The VAT law, which was amended by the tax reforms, includes the following non-exhaustive list of taxable digital services:

1. Provision and hosting of websites and web pages, and any other service offering or facilitating the presence of companies or individuals in an electronic network.
2. Supply of digitized products in general, including, but not limited to, computer programmes, modifications and updates thereof, and access to and/or downloading of e-books, designs, components, patterns and the like, reports, financial analysis or market data and guides.

Box II.2 (concluded)

3. Automated remote maintenance of software and hardware.
4. Remote system management and online technical support.
5. Web services, including, but not limited to, data storage with remote or online access, memory services and online advertising.
6. Software services, including, but not limited to, software services provided over the Internet (software as a service or SaaS) through cloud-based downloads.
7. Access to and/or downloading of images, text, information, videos, music and games, including gambling games. This section includes, among other services, downloads of films and other audiovisual content to devices connected to the Internet, online downloads of games —including those with multiple players connected remotely—, broadcasts of music, films, betting or any other digital content —including through streaming technology, without the need to download to a storage device—, delivery of advertising jingles, ringtones and music, viewing of online news, traffic information, weather forecasts —including satellite services—, blogs and website statistics.
8. Provision of databases and any service automatically generated by a computer, via the Internet or over an electronic network, in response to specific data input by a customer.
9. Services of online clubs or dating sites.
10. Services offered by blogs, online magazines or newspapers.
11. Provision of Internet services.
12. Distance learning, testing or exercises, carried out or corrected through automated systems.
13. Granting, in exchange for payment, of the right to market a good or service on an Internet site that operates as an online marketplace, including online auction services.
14. Data manipulation and calculation via the Internet or other electronic networks.

VAT must be applied only when the services are used or consumed in Argentina. In the case of services provided by a VAT payer, it is assumed —unless proved otherwise— that effective use or employment takes place in the jurisdiction in which the following conditions are found to be met:

1. In the case of services received through mobile phones: in the country identified by the code of the mobile phone SIM card.
2. In the case of services received through other devices: in the country of the IP addresses of the service receiver's electronic devices. An IP address is considered to be the unique numeric identifier assigned to an electronic device, comprising binary values.

If services are contracted by end users or companies that are not VAT payers, it is presumed, unless proved otherwise, that the services are effectively used or employed in Argentina when at least one of the following is located in the country:

1. The IP address of the device used by the customer or the SIM card country code, as specified in the preceding paragraph.
2. The customer's billing address.
3. The bank account used for payment, or the customer's billing address registered with the bank or the financial institution that issued the credit or debit card used for payment.

Finally, with respect to administration, the law establishes that the taxpayer is the provider or importer of the service, as they are responsible for paying the tax. If an intermediary participates in the payment, they will assume the role of collection agent. The tax must be paid in accordance with the means, terms and conditions established by the tax administration.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on Ministry of Finance data, "*La reforma tributaria argentina de 2017*", 2018 [online] https://www.argentina.gob.ar/sites/default/files/ministerio_de_hacienda_-_la_reforma_tributaria_argentina_de_2017.pdf.

^a Law No. 27430, approved by Congress on 27 December 2017 and published in the Official Gazette on 29 December 2017.

This measure came into force on 27 June 2018. According to press reports, application of the 21 % VAT rate to these services enabled collection of US\$ 19 million in four months.³

To effectuate collection, in Argentina a decision was made to use intermediaries—essentially the entities in the country that facilitate or manage international payments—which must settle and pay the tax if providers are not companies that pay VAT. In other words, non-resident providers are not required to register as taxpayers.

Prior to the reforms in Argentina, Colombia had already made a similar regulatory change, in its 2016 tax reform, by stipulating in its National Tax Statute that services provided from abroad would be deemed to be provided in the national territory, and thus become subject to VAT. As a result, since July 2018 VAT has been levied on most digital services at the general rate of 19%. However, the legislation expressly provides exemptions for virtual education services for the development of digital content; the provision of websites, servers, cloud computing and remote maintenance of software and hardware; and the acquisition of software licences for the commercial development of digital content (see box II.3).

In order to effectuate collection, Colombia requires non-resident companies to be included in the Unique Taxpayer Registry so that they themselves file returns and pay VAT. They are also given the option of participating in a tax withholding system whereby the tax administration issues a list of non-resident companies, and banks and other issuers of means of payment withhold VAT on payments made by these companies' customers.

Initially, it was established that issuers of means of payment were obliged to withhold and pay VAT. However, these entities opposed the measure, arguing that it would increase costs for consumers. Ultimately, the law was amended, giving priority to direct payment by non-resident providers.

The National Directorate of Taxes and Customs (DIAN) recently stated that in January 2019 approximately US\$ 12 million of VAT was collected on digital services, relating to transactions carried out during the second half of 2018 (DIAN, 2019).

In Uruguay, the legal changes of 2017 expanded the VAT base to include broadcasting of audiovisual content and multi-sided platform intermediation provided from abroad. Although the base is narrower than those of the preceding countries, it is certainly aimed at the major companies in the digital economy. These services will be taxed at the general VAT rate of 22% (see box II.4).

Uruguay has opted to collect the tax directly from non-resident suppliers, without establishing withholding mechanisms for credit or debit cards.

The obligation to pay VAT has been in force since January 2018, but it was only recently that collection was expected to begin in December 2018, following a preliminary registration period for companies which, according to the authorities, has been quite successful. The Government of Uruguay expects to collect approximately US\$ 10 million per year, including VAT and income tax.

³ See, for example, *La Nación*, "Los servicios digitales le dejó al país más de \$700 millones en impuestos", 22 October 2018 [online] <https://www.lanacion.com.ar/2183914-los-servicios-digitales-le-dejaron-al-pais-mas-de-700-millones-en-impuestos>.

In the tax reform approved in December 2016,^a the Colombian government adopted, for VAT, almost all the OECD recommendations related to digital services. Thus, in the definition of taxable events, a paragraph was added stating that “services rendered and intangibles acquired or licensed from abroad shall be understood as rendered, licensed or acquired in the national territory and shall be subject to the respective tax when the tax residence, domicile, permanent establishment, or place of business of the direct user or recipient is located in national territory”. That is to say, the reform extended the scope of VAT to include services rendered by non-resident companies, which were not previously taxed.

The reform also established that in B2B transactions, companies covered by the general VAT system that contract taxable services from non-resident companies must withhold and pay the tax.

In the case of B2C and B2B transactions where the buyer is not a VAT payer, the obligation to withhold and pay VAT lies with the non-resident provider. For this purpose, non-resident service providers are required to register with the Colombian tax administration and file returns and pay the tax every two months. This obligation came into force on 1 July 2018.

A requirement has also been established for issuers of means of payment to withhold VAT—a system which providers of electronic or digital services may voluntarily use—and the tax administration must publish a list of suppliers subject to withholding.^b It is stipulated that withholding shall be applied to the following digital services:^c

- (a) Provision of audiovisual services (including music, videos, films and games of any kind, as well as broadcasting of any type of event).
- (b) Services provided through digital platforms.
- (c) Provision of online advertising services.
- (d) Provision of distance learning or training.
- (e) Provision of the right to use or employ intangibles.
- (f) Other electronic or digital services for users located in Colombia.

The reform also provides for the following VAT exemptions for digital services:

- Virtual education services for the development of digital content, pursuant to the regulations issued by the Ministry of Information and Communications Technologies, whether provided in Colombia or abroad.
- Provision of web pages, servers (hosting), cloud computing and remote maintenance of software and hardware.
- Acquisition of software licences for the development of digital content, pursuant to the regulations issued by the Ministry of Information and Communications Technologies.

The National Directorate of Taxes and Customs (DIAN) designed the procedure, which is now available, for non-resident providers to file returns and pay VAT. Non-resident taxpayers were required to file returns for the first time on 15 January 2019, the deadline for paying VAT for the second half of 2018.^d

Taxpayers who are obliged to file returns and pay VAT must first be included in the Unique Taxpayer Registry and file the return on the DIAN website as a registered user, using a form specially designed for this purpose.

There are two ways to pay:

1. Making the payment in Colombia using an official form for receipt of payment of national taxes, either online or in person in banks.
2. Making the payment from outside the country, through the electronic computer service for the special tax regime managed by DIAN, which generates a screen showing the amount payable in dollars and its equivalent in Colombian pesos, and a payment reference number for the taxpayer to deposit the amount payable in an account held by the Ministry of Finance and Public Credit.

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a Law No. 1819 of December 2016, adopting a structural tax reform, strengthening mechanisms to combat tax evasion and avoidance, and enacting other provisions.

^b This voluntary aspect was included in Law No. 1943 of December 2018. Initially, the provision indicated that withholding would apply if non-resident suppliers did not comply with the requirement to file returns and pay VAT.

^c The latter two exemptions were included in Law No. 1943 of December 2018.

^d Payment will be made every two months, but on this first occasion returns had to be filed on the same date for the two-month periods of July-August, September-October and November-December 2018.

Box II.3

Colombia: application of the OECD International VAT/GST Guidelines

Box II.4

Uruguay: application of VAT and income tax to digital audiovisual services and multi-sided platforms

In September 2017, Law 19535 was enacted, establishing a set of tax rules applicable to the provision of services through the Internet, technological platforms, computer programmes, or similar, and came into effect on 1 January 2018.^a

With regard to income tax, the new legislation stipulates that income derived from the production, distribution or intermediation of cinematographic films and tapes, and income derived from direct television transmissions and transmissions of any audiovisual content, including through the Internet, technological platforms, computer programmes, or other similar means, such as access to and downloading of films, shall be considered to be entirely of Uruguayan origin, provided that the person requesting the service is in Uruguayan territory. That is to say, foreign payments for these services, including platforms such as Netflix and Spotify, will be taxed at the non-resident rate of 12%.

Similarly, income from mediation and intermediation in the supply of or demand for services provided through the Internet, technological platforms, computer programmes, or similar (multi-sided platforms, such as Airbnb, Uber and Amazon Marketplace), shall be considered to be of Uruguayan origin. It is assumed that 100% of the income is derived from Uruguayan sources when the service provider and the person requesting the service are both in national territory and that 50% of income is of Uruguayan origin when the service provider or requester is abroad. In short, the income will be taxed at a rate of 12% or 6%, respectively.

Mediation and intermediation activities are understood to be those that meet the following conditions:

- (i) They are by nature essentially automated, require minimal human involvement, and are not viable outside information technology.
- (ii) They entail direct or indirect involvement in supply or demand for the provision of services (the main transaction).

Both in the broadcasting of audiovisual content and in mediation and intermediation services, it is understood that the person requesting the service is in Uruguayan territory when the IP address of the device used to contract the service is from that territory, or alternatively the billing address. If it is not possible to verify any of these conditions, it shall be presumed that the person requesting the service is in Uruguayan territory when the payment for the service is provided through electronic means administered from the country. Furthermore, it is presumed that the provider is in Uruguay, in the case of mediation or intermediation services, when the service is provided in that territory.

With respect to VAT, the same law and its regulations expressly provide that VAT will be levied, at the general rate of 22%, on services for the transmission of audiovisual content through the Internet, technological platforms, computer programmes, or other similar media, and on intermediation services for multi-sided platforms provided through the same media. In the latter case, when both providers and requesters are in Uruguayan territory, 100% of the intermediation service is taxed with VAT, while if one of the parties is abroad, 50% of the intermediation service is taxed with VAT.

With respect to tax administration, under the Uruguayan model the non-resident company that renders the services is the party liable for VAT and income tax. For this purpose, a simplified taxpayer registration system is available, which frees taxpayers from the requirement to appoint a representative in the country and validates tax documentation issued under the rules of the country of residence. The system also facilitates payment, allowing an annual return to be filed for both VAT and income tax, and allowing payment to be made in dollars.

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a Section VII of Law No. 19535 on accountability and budget execution for the 2016 fiscal year, regulated by Decree No. 144/048 of 2018, of the Ministry of Economy and Finance.

In contrast, in Costa Rica and Paraguay, the strategies for charging VAT for digital services are mainly based on the power to withhold the tax on means of payment. In Costa Rica, the recently enacted VAT law taxes all services rendered from abroad and consumed in national territory. In order to effectuate collection of VAT on transactions performed by end users, the law gives the tax administration the power to require international credit and debit card issuers to withhold VAT on purchases of services made by their clients on the Internet or through other digital platforms. Customers can even ask for refunds of amounts withheld when it can be demonstrated that the payments on which amounts were withheld were not purchases of services that are taxable and used in national territory (see box II.5).

On 4 December 2018, a tax reform was approved in Costa Rica that substantially modified value added tax.^a The changes included the addition to the VAT law of article 30, which establishes a system for collecting VAT on purchases of international services.

The article gives the tax administration the power to establish collection of VAT through persons who act as suppliers or intermediaries for end users to purchase services through the Internet or any other digital platform, when the services are consumed in the national territory, in accordance with the provisions of the second paragraph of article 4 of the law.

Without prejudice to the foregoing, this article provides that issuers of credit or debit cards for international use shall act as collection agents when their cardholders, as taxpayers, make purchases through the Internet or any other digital platform of services that are consumed in the national territory. This VAT will be collected at the general rate of 13%, applied to the gross amount of the purchase made by the cardholder.

In addition, cardholders may request refunds of the tax from the tax administration, if purchases have been made with credit or debit cards or any other similar means internationally and they are in any of the following situations:

1. When the purchased services are enjoyed or consumed entirely in another jurisdiction.
2. When electronic means of payment have been used to transfer or send money to persons or entities located outside the national territory, resulting in these funds being held or consumed in a jurisdiction other than Costa Rica.
3. When the services purchased are exempt from or not subject to VAT.

The cardholder must submit invoices, documents and any other evidence that proves that the purchase falls within one of the three aforementioned situations.

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a Law 9635 on the strengthening of public finances, of December 2018.

Box II.5

Costa Rica: VAT withholding on purchases of international services

Meanwhile, the Paraguayan authorities consider that the country's VAT law allows for the collection of tax related to the provision of digital services from abroad. In this regard, officials from the Office of the Undersecretary of State for Taxation have indicated that they will work in coordination with the Central Bank of Paraguay and other entities to implement tax withholdings for providers of these digital services, which will be applied by banks or issuers of credit and debit cards. The intention is to define the procedure, and the specific services covered, in a regulatory decree. This measure is required by Law No. 6106 on promoting audiovisual services, approved in 2018, which established a fund whose resources come from 50% of "the budgetary items derived from tax withholdings on commercial transactions related to audiovisual services received through the Internet from abroad, to be retained by credit and debit card issuers".

Chile proposes a different measure, through a tax reform bill sent to Congress by the executive branch in August 2017. Prevailing VAT law applies the destination principle, meaning that all services rendered by non-residents and used in Chile are taxed with VAT,

at the rate of 19%, including digital services. There are, however, practical difficulties with VAT collection when the customer is an end user, since there is no system for registering non-resident companies or for applying withholdings to means of payment. Furthermore, VAT is not applied when an income tax withholding is applied to the same transaction; income tax rates are, except in specific cases, higher than the VAT rate. However, the bill proposes the creation of a tax on digital services at a rate of 10%, applied to the gross value of the service, replacing any other tax, including VAT and income tax. In short, in practical terms, the tax on digital services would be a form of reduced or preferential VAT on digital services (see box II.6).

In order to ensure collection, Chile is also opting to withhold tax on means of payment. According to the bill's financial report, the government expects to raise US\$ 250 million annually through this measure. This figure is much higher than the amount actually collected in countries for which data are already available. Chile forecasts annual collection of US\$ 25 million per rate point, while Argentina and Colombia have collected US\$ 2.7 million and US\$ 1.3 million per rate point, respectively.

Box II.6

Chile: VAT on digital services and proposed substitute tax

In Chile, VAT is levied on services in accordance with the destination principle. Indeed, article 5 of Law No. 825 states that the tax shall be levied on "services rendered or used in national territory, irrespective of whether the corresponding remuneration is paid or received in Chile or abroad". Moreover, under the law, services provided to persons whose domicile or residence is not in Chile are VAT-exempt, provided that the National Customs Service classifies such services as exports. In short, VAT is levied primarily on services that are consumed or used in Chile, whether these services are provided in Chile or from abroad.

In particular, digital services provided from abroad, whether they are B2B or B2C, are subject to VAT. Administration rules stipulate that the beneficiary of the service shall be responsible for filing returns and paying VAT.

In addition, under the law, services rendered by non-residents are VAT-exempt if the gross income remitted abroad is subject to income tax withholding. This exemption applies even when, under a tax treaty, the remittance becomes exempt from the income tax withholding. This puts resident providers at a disadvantage vis-à-vis non-resident providers. For example, it is more advantageous for a VAT-exempt company to purchase a software licence from a non-resident supplier, which will be exempt from VAT and income tax withholding, than from a domestic supplier who is obliged to pay VAT and income tax.

Despite the above exception, a number of digital services are taxed with VAT under Chilean law. However, there are certainly practical difficulties in collecting the tax on B2C transactions. There are almost no end users who meet the requirement to withhold and pay VAT when they purchase services online.

Moreover, in August 2018 the government sent a tax reform bill to the National Congress, which among other things establishes a tax on digital services at a rate of 10% on gross income.^a This is defined as a specific indirect tax that substitutes any other tax, which is levied on digital services provided by non-residents, irrespective of the location of the server or technological platform that supports them, and provided that the services are used in Chile by users who are natural persons.

For these purposes, digital services are understood to mean the following:

- (a) Paid digital intermediation services between providers of any service and users of the same that enable conclusion of the respective transactions by electronic means, irrespective of whether the services subject to digital intermediation are rendered by traditional or electronic means.
- (b) Paid entertainment services of digital content, such as images, movies, series, videos, music, games and any other digital entertainment service, through downloading, streaming or other technology.
- (c) Paid outdoor advertising services and the use and subscription of Internet-based technological service platforms.
- (d) Paid data storage services using any technology, such as cloud services or software as a service.

Box II.6 (concluded)

With respect to identification of whether the service was actually used in Chile, the bill provides that this will be presumed to be the case when the issuers of the electronic means of payment used are persons or entities domiciled or resident in Chile, or agencies in Chile of such entities.

In addition, the bill clarifies that in the case of multi-sided platforms (paid digital intermediation services), the tax will be applied to the service provided by the platform manager, irrespective of the taxes payable by platform users, whose services are intermediated.

The bill defines non-resident persons or entities providing digital services as payers of this tax. The tax rate will be 10% and will be applied to the amount paid by users, with no deductions.

As regards administration of the tax, the obligation to withhold and pay the tax lies with the issuers of the electronic means of payment employed by users of digital services, a requirement that becomes effective on the date the user pays for the services through the respective electronic means of payment. If the services were paid for in cash, the taxpayer, i.e. the non-resident company supplying the services, is liable for withholding and payment of the tax.

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a Bill modernizing the tax administration, Message No. 107-366, of August 2018.

2. Income tax initiatives

Of the 16 countries analysed, only Peru and Uruguay have made legal changes related to income tax on digital services.

The case of Peru is quite exceptional, as it made the changes in 2003, long before the debate on taxation of the digital economy reached its current prominence. In brief, the legal change consisted of expanding the definition of income considered to be of Peruvian origin to include income remitted abroad as payment for digital services. As a result, such payments are subject to a withholding tax of 30%.

Nonetheless, in practice this legislative change does not resolve all the problems arising from the digital transformation of the economy. First, the scope of the law is limited, as it only applies to business-to-business transactions (B2B), and not to transactions between non-resident enterprises and end users (B2C). According to León (2017) another limitation of the Peruvian law is that it only taxes services, but not digital goods. In other words, if a Peruvian resident downloads an e-book, the transaction is not taxed, since the user is not a company. Therefore, for income tax purposes the service would not be considered to be used or consumed in the country. However, if the buyer is a business, it is not obliged to withhold the tax either, as the law taxes digital services, but does not tax digital goods.

Second, it does not address the problem of a significant economic presence without a physical presence, or the problem of how to recognize users' contribution to value creation. It simply applies a tax on gross income, regardless of the level of presence of the foreign supplier in the Peruvian economy, and regardless of whether users contributed to the creation of value.

In Uruguay, through Law 19535 of 2017, a rule was introduced which establishes that income derived from the transmission of audiovisual content shall be considered to be 100% of Uruguayan origin, resulting in gross remittances abroad for this purpose being taxed at a rate of 12%. Similarly, income from administration of two-sided platforms shall be considered to be 100% of Uruguayan origin when both the supplier and the client are resident in Uruguay, and will be considered to be 50% of Uruguayan origin when one of the two parties is resident abroad (see box II.4).

Finally, in Mexico, a bill was introduced by parliamentary initiative in the Chamber of Deputies on 6 September 2018, to establish a tax on income from digital services. The proposal is very similar to the tax on digital services proposed by the European Union and is based on the same rationale. The tax consists of a levy of 3% on gross revenue from the following activities: (i) the inclusion of advertising in digital interfaces aimed at users thereof; (ii) the provision of a multifaceted digital interface for users, enabling them to locate and interact with other users, which may also facilitate the delivery of goods or the provision of underlying services directly to users; and (iii) the transmission of data collected about users, generated by users' activities on digital interfaces.

The bill defines as payers of the tax those persons residing in national territory, as well as those residing abroad with permanent establishments in the country. However, it excludes non-residents without a permanent establishment, a group that includes most of the companies that the tax targets.

Box II.7

Peru: a pioneer in incorporating digital services into the income tax law

In 2003, an amendment was made to the income tax law^a which, among other changes, broadened the definition of Peruvian source income to include "income obtained from digital services provided through the Internet or from any adaptation or application of the protocols, platforms or technology used by the Internet or any other network through which equivalent services are provided, when the service is utilised economically, used or consumed in the country".

The regulation of the law defines a digital service as "any service that is made available to users through the Internet or any adaptation or application of the protocols, platforms or technology used by the Internet or any other network through which equivalent services are provided through online access and which is characterized by being essentially automatic and not viable in the absence of information technology". Digital services are considered to include software maintenance, networked customer support, data warehousing, application hosting, application service provision (ASP), web site hosting, electronic access to consulting services, banner ads, online auctions, distribution of information, access to interactive web pages, interactive training, and online portals for buying and selling.

In addition, the regulations consider a digital service to be utilised economically, used or consumed in the country, when it contributes to the development of the economic activities of other companies. In other words, income from digital services is taxed only when it is derived from business-to-business transactions (B2B), but not if it originates from digital services contracted by end users (B2C).

Finally, it should be noted that the income from digital services that is considered to be of Peruvian origin is subject to a withholding tax of 30%.

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a Legislative Decree No. 945 of December 2003, as amended by Legislative Decree No. 970 of December 2006 and Supreme Decree No. 159 of 2007.

3. Collection made possible by some legal changes

A failure to address the challenges arising from the digitalization of the economy would entail giving up significant fiscal resources, which will only worsen as the new business models of the digital economy continue to consolidate. Table II.2 shows estimates of the amounts that could be collected by applying VAT and a 3% tax to digital services in 10 Latin American countries, taking into account 4 of the largest digital firms. The calculation is based on sales estimates by company and country produced by Hernández and Albagli (2017).

In accordance with OECD recommendations, it has been assumed that VAT would be applied to all services, while the tax on digital services would only be applied to intermediation services of multi-sided platforms—in this case Uber. It is estimated

that an annual total of US\$ 580 million would be collected overall in the countries, of which US\$ 572 million would come from VAT and US\$ 8 million from the tax on digital services. Evidently, this is a conservative estimate, as there are several other major companies that have not been considered.

Table II.2

Estimated potential collection from VAT and tax on digital services
(Millions of dollars per year and percentages)

	Argentina	Bolivia (Plurinational State of)	Brazil	Chile	Colombia	Costa Rica	Ecuador	Mexico	Peru	Uruguay
Sales										
Uber	32.3	2.5	121.3	14.9	22.6	2.6	6.6	78.8	13.7	2.5
Netflix	223.1	19.5	806.9	110.0	172.4	20.0	47.0	578.8	102.7	18.7
Spotify	75.4	6.6	272.4	37.2	58.3	6.8	15.9	195.7	34.8	6.3
Apple	166.8	14.4	616.6	81.8	127.9	14.7	35.4	429.5	75.9	14.0
Total	497.6	43.0	1 817.2	243.9	381.2	44.0	104.9	1 282.8	227.1	41.5
Rates (percentages)										
VAT	21.00	13.00	9.25	19.00	16.00	13.00	12.00	16.00	18.00	22.00
Tax on digital services	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Potential collection										
VAT	86.4	4.9	153.9	38.9	52.6	5.1	11.2	176.9	34.6	7.5
Tax on digital services	0.7	0.1	3.3	0.3	0.5	0.1	0.2	1.9	0.3	0.1
Total	87.1	5.0	157.1	39.3	53.1	5.1	11.4	178.8	35.0	7.5
Potential collection (percentage of GDP)										
VAT	0.0156	0.0143	0.0086	0.0156	0.0186	0.0088	0.0112	0.0164	0.0178	0.0142
Tax on digital services	0.0001	0.0003	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Total	0.0157	0.0146	0.0088	0.0157	0.0188	0.0088	0.0114	0.0166	0.0180	0.0142
Potential collection (percentage of tax collected on goods and services)										
VAT	0.1086	0.1006	0.0675	0.1414	0.2523	0.0983	0.1090	0.2463	0.2422	0.1378
Tax on digital services ^a	0.0009	0.0021	0.0014	0.0011	0.0024	0.0019	0.0019	0.0026	0.0021	0.0018
Total	0.1095	0.1027	0.0689	0.1429	0.2547	0.0983	0.1109	0.2489	0.2450	0.1378

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of L. Hernández and P. Albagli, “Economía digital: oportunidades y desafíos”, *Documento de Trabajo*, No. 40, Santiago, Centro Latinoamericano de Políticas Económicas y Sociales (CLAPES UC), 2017.

Note: The sales by company are as estimated by Hernández and Albagli (2017). However, the figures for collection are different from those that appear in the study for the following reasons: (i) it has been assumed that Uber would pay VAT on the intermediation commission, while in the aforementioned study it is assumed to be VAT-exempt; (ii) a tax rate of 3% has been included instead of the general withholding rate for income tax; (iii) collection through customs duties has not been included.

^a According to the OECD classification of taxes, the tax on digital services would be considered a tax on specific services, as its taxable base is gross revenues.

D. Conclusions and outlook

To date, progress in taxation of the digital economy in Latin America has been moderate. At present, just 3 of the 16 countries analysed levy VAT on digital services (Argentina, Colombia and Uruguay) and 3 others are in the process of establishing means of doing so (Chile, Costa Rica and Paraguay).

It is important that other countries make efforts to advance in this area, following internationally recommended practices. This will, in most cases, require changes to domestic legislation so that services supplied by non-resident companies are covered by VAT, and at the same time the design of administrative procedures to ensure effective collection. In this regard, it is suggested that the OECD recommendation is adopted, to design a simplified system for the inclusion of non-resident companies in VAT payer registers, so that these companies are responsible for filing returns and paying VAT on the services they provide to end users in each country.

There are even fewer income tax initiatives in the region than those concerning VAT. However, in this case there is no consensus on whether interim measures are needed

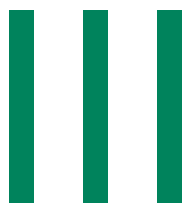
until a global solution has been agreed by the international community. Obviously, each country must assess the suitability of adopting unilateral measures. However, it would be desirable to follow the OECD recommendations on interim measures, in particular, respecting tax treaties and targeting services characterized by significant participation of users in value creation, which is the area reflecting the largest gap between current international tax rules, designed for the traditional economy, and the tax rules required for the new digital economy.

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CHAPTER



Corrective taxes and the 2030 Agenda for Sustainable Development

Introduction

- A. Corrective taxes in the framework of the 2030 Agenda for Sustainable Development
- B. Corrective taxes and public health: the case of tobacco
- C. Corrective taxes and public health: the case of alcohol
- D. Corrective taxes and public health: the case of sugar-sweetened beverages
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Introduction

In addition to underpinning adequate government financing, taxes have the capacity to alter the structure of relative prices of the goods and services available in an economy, and thus influence production, consumption and investment decisions and, consequently, the final composition of consumer demand. They can thus be used to promote or, as will be argued in this chapter, discourage, specific economic actions that are considered harmful or undesirable for the well-being of society at large.

The development of environmental taxation in the last two decades, which has been promoted particularly in developed countries, reflects these characteristics and is currently a topic of debate in the main international forums on development financing. Based on similar arguments, but with a different objective, the use of specific taxes has been extended to address public health issues in recent years. Numerous specialists have advocated raising taxes on products that are harmful to human health, including tobacco in all its forms, alcoholic beverages and, more recently, sugar-sweetened beverages and other unhealthy foods. In all cases the aim is to reduce the consumption of certain goods that have adverse consequences both for individuals and for the citizenry at large.

The key objective of this chapter is to stimulate debate on corrective taxes in the countries of Latin America and the Caribbean. The importance of this topic for governments arises from the possibility of reforming tax systems in line with international trends, without neglecting the necessary consolidation of the main revenue-generating tools currently in use. The aim is to expand the potential of taxation beyond its basic and fundamental revenue-collection objective, to foster changes in economic agents' behaviour that increase general well-being in its multiple dimensions.

A. Corrective taxes in the framework of the 2030 Agenda for Sustainable Development

In recent years, in the comprehensive framework of the 2030 Agenda for Sustainable Development, attention has been drawn to the important role of taxation as a development tool beyond its basic function of obtaining fiscal resources to fund the government, enabling countries to quantitatively and qualitatively improve the provision of public goods and services to their citizens.

One of the areas in which this potential has been identified and repeatedly emphasized by several international organizations is public health. It is worth recalling that the third Sustainable Development Goal (SDG) of the 2030 Agenda is "to ensure healthy lives and promote well-being for all at all ages". In this context, and as part of a broader strategy, price policies have gained importance, particularly through increases in taxes on tobacco and other potentially unhealthy products. This makes it possible to address problems associated with certain harmful types of behaviour and help reduce the current prevalence of the main noncommunicable diseases. Given their potential impact on the price of the goods in question, taxes are recognized as an effective tool to: (i) discourage and reduce the consumption of products that are harmful to health; (ii) decrease the fiscal cost associated with programmes to deal with non-communicable diseases; and (iii) make use of the tax revenues obtained from their application to finance public policies that are consistent with sustainable development.

In addition to the social and economic dimensions, the 2030 Agenda attaches special importance to environmental protection; and most of the SDGs are directly or indirectly linked to different aspects of this problem. Taxation also plays an important role in this domain as a tool that can influence private behaviour, in this case by discouraging environmentally harmful practices. It also makes it possible to obtain additional revenue to strengthen general government finances and, possibly, boost public spending programmes aimed at environmental protection or the restructuring of economic activities to make them environmentally sustainable.

As noted in *Fiscal Panorama of Latin America and the Caribbean, 2018*, tax policy plays a leading role in creating incentives (and resources) for meeting the Sustainable Development Goals (ECLAC, 2018). Accordingly, this chapter will discuss a heterogeneous set of taxes that are labelled “corrective” because they explicitly or implicitly share a rationale based on their effects on the prices of certain goods with the aim of reducing their consumption or production. This means modifying or correcting certain practices that are detrimental to both individual and social well-being. The aim is to emphasize this general approach while continuing to identify and highlight the specific features of the taxes imposed on each of the goods in question, and the implications that arise from an analysis of specific evidence on the subject for the countries of Latin America and the Caribbean.

In theory, any tax can be considered “corrective” if it has the capacity to raise the price of goods, which then causes a reduction in demand for them and generates practical benefits from this induced behavioural change. Nonetheless, selective taxes, which are those levied differentially on a specific product or group of similar products, compared to other goods available in an economy, have the greatest potential to more directly influence the consumption or production of a specific item.¹ Accordingly, the analysis will mainly focus on these taxes, which does not ignore the fact that they usually coexist and interact with other indirect taxes that are levied on the same goods, thus reinforcing the formers’ effects.

Selective taxes represent one of the oldest forms of taxation (Cnossen, 2005). Modern tax systems were originally formed by targeting individual taxes on very specific goods. Over time, the aggregation of these taxes (not always in coordinated fashion) gave rise to general sales taxes and, more recently, the consolidation of value-added tax (VAT) as the main form of taxation on consumption. This meant that selective taxes lost importance in the countries’ tax structures and became focused on a limited set of goods and services.

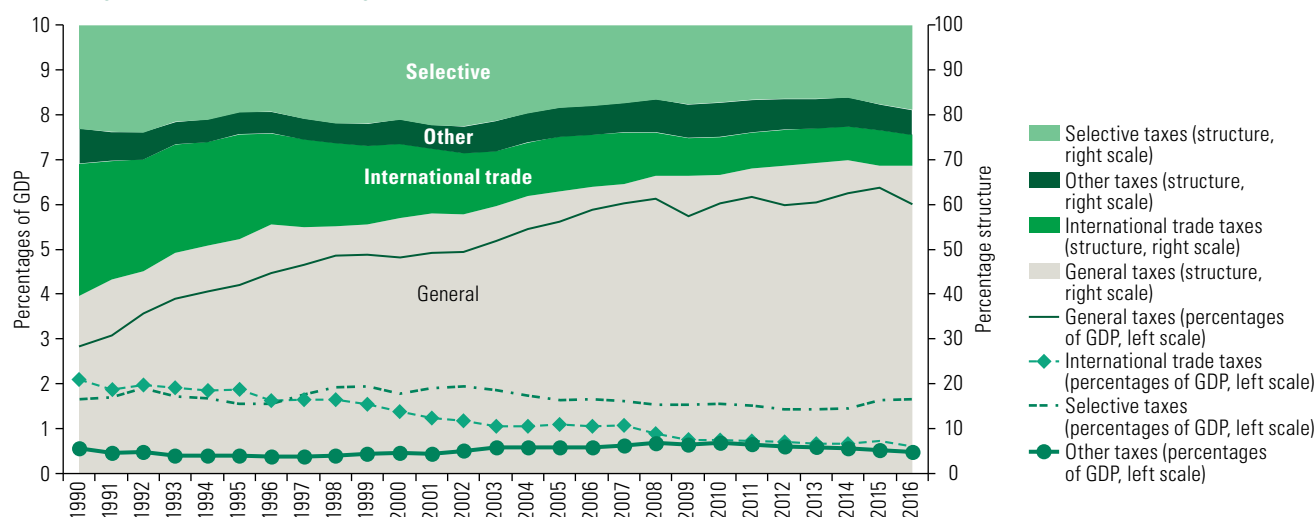
This process, the stages of which first unfolded in developed countries, had its counterpart in most Latin American countries (Cetrángolo and others, 2018). Figure III.1 shows how broad categories of taxes on goods and services evolved between 1990 and 2016. The composition of these taxes changed gradually, with a rapid rise of general taxes such as VAT, a sharp reduction in international trade taxes, and revenue intake from selective taxes that remained broadly stable relative to GDP, despite a gentle decline as from 2000 and a slight loss of share in the tax structures of most countries in the region.

¹ The corrective effects of selective taxation on a given product could also be achieved by setting differential rates for general taxes, or even with equal rates of general taxation, when these are applied on bases that are increased in a special way.

Figure III.1

Latin America (18 countries): structure of taxes on goods and services, simple average, 1990–2016

(Percentages of GDP and percentage structure)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Organization for Cooperation and Development/Economic Commission for Latin America and the Caribbean/Inter-American Center of Tax Administrations/Inter-American Development Bank (OECD/ECLAC/CIAT/IDB), *Revenue Statistics in Latin America and the Caribbean*, Paris, OECD Publishing, 2018.

Historically, the vast majority of selective taxes have pursued the primary goal of generating revenue to finance the functions of government. The underlying rationale has been that selective taxes tend to be relatively easier to administer when they involve large sales volumes, are focused on a small number of producers, and substitute products are few. Moreover, the main items subject to these taxes tend to have low price-elasticities of demand, which means that their consumption does not vary greatly as their prices change. There are theoretical grounds (Ramsey Rule) to tax these goods and thus reduce the efficiency-distorting effects of consumption taxation.

Nonetheless, another important objective justifying the use of these taxes is the intention of governments to discourage the consumption of goods considered harmful to general well-being.² This is what turns a selective tax into a “corrective” one as understood here. At this point, it is necessary to recognize two sides of the same coin which, as can be seen, constitute the common thread of the ongoing debate on the potential of corrective taxes today.

The taxation of a particular good can aim to correct negative externalities arising from its consumption or production. Imposing a charge to reduce the consumption of the product in question to socially acceptable levels is the well-known Pigouvian prescription (Pigou, 1920). In this case, the emphasis will be placed on the external costs imposed on third parties, which generally manifest themselves immediately following the harmful conduct, or else, sometimes, in a later period as the harmful effects gradually accumulate.

The most common examples are goods for which excessive consumption generates environmental problems. Global warming, noise, water and air pollution, and traffic congestion in major cities provide a more than valid argument for imposing selective taxes on fossil fuels and motor vehicles, in order to raise their cost and discourage their mass consumption. Similarly, the negative-externality argument to justify a corrective tax also applies to most goods whose consumption tends to be associated with global

² There are also other selective taxes in force, such as those levied on luxury products, which may have a distributive aim, since they fall on individuals with a higher level of expenditure and higher incomes.

public-health problems, such as tobacco or alcoholic beverages. In these cases, the external costs are expressed not only through adverse health consequences (such as those caused by exposure to cigarette smoke), but may also include both economic costs (lower labour productivity, higher overall health-care costs), and non-economic costs (exposure to traffic accidents, interpersonal violence, inferior quality of life).

Taxing a specific good may help to correct information failures resulting from the inability of consumers or producers to consider all of the harmful effects associated with certain consumption habits or production techniques, many of which become visible in the long term. This is particularly important when designing and formulating corrective taxes, since younger generations and poorer households are more likely to downplay or ignore these effects, which will inevitably manifest themselves in the future.

This second argument for corrective taxes is clear in the case of products such as tobacco, alcohol or sugar-sweetened beverages. Consumers may well be unaware of the risks of consuming these products; or, if they are aware of them, they may act in ways that are contrary to their long-term interest—a long and healthy life—because it is hard to modify certain consumption habits. Moreover, in the cases of smoking and alcoholism in particular, addictive behavioural practices cannot easily be given up in the short run. Although somewhat more diffuse, this type of justification can also be sustained in the case of environmental taxes, because, if effective, the consumers of environmentally harmful products, such as fossil fuels, will also benefit by taking account of the damage caused to the environment in which they themselves will live in the future.

Thus, the main argument for implementing corrective taxes—which will be emphasized in this chapter and applies to all of the main goods subject to differential taxation—invokes a comprehensive view of the harmful effects on the individual who consumes the “harmful” good, in the short term; but even more so in the long run, due to information failures, and the external effects imposed on other third parties, which manifest themselves fully or gradually, as the case may be. The two effects can have different magnitudes, depending on the consumption characteristics of each product; but, in any event, they complement each other and provide more solid foundations to justify this type of public policy.

Beyond these fundamentals, corrective taxes have a series of potential effects that need to be identified from the outset. The following paragraphs provide a brief description of those considered most significant, noting that they acquire specific characteristics and intensities in relation to the goods being taxed. A systematic analysis of these potential effects, along with the objectives that usually justify corrective taxes and their main public-policy implications, are shown in diagram III.1.

An evaluation of the multiple effects caused by taxing certain goods as a way to reduce their consumption (tobacco, alcohol, sugar-sweetened beverages, fossil fuels, among others) involves several issues related to the individual decisions made by the consumers and producers in question, and their reactions to the existence of (and changes in) different types of taxes in different contexts. It is therefore essential to analyse the effects on the prices and quantities consumed of the good subject to a corrective tax. This means assessing the sensitivity of the demand for a good to changes in its price and in the prices of other related products, which is encapsulated in the concepts of direct and cross elasticity, respectively. At the same time, the way the tax burden is distributed between producers and consumers needs to be evaluated to determine the effective incidence of the tax and, ultimately, the impact of a tax change on prices and on the quantities demanded by consumers.

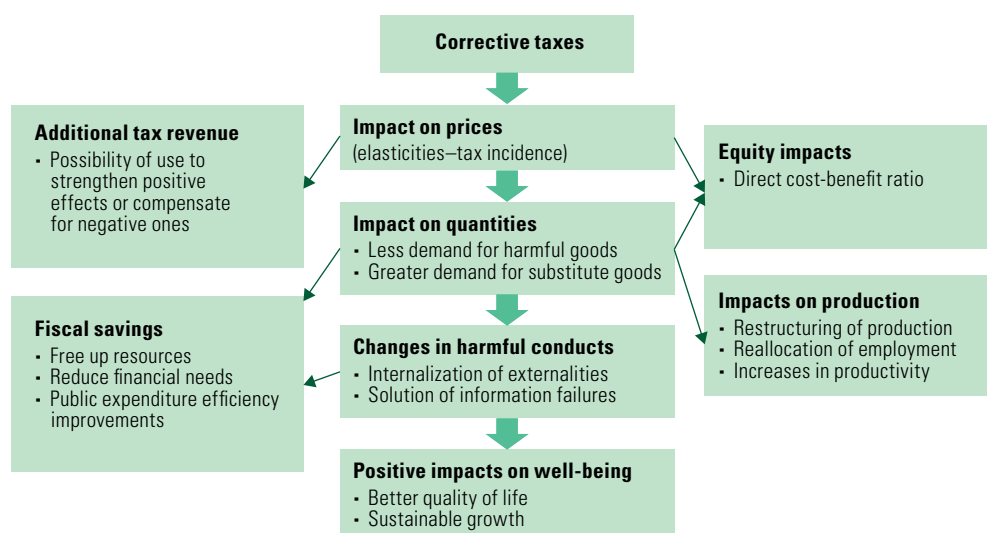


Diagram III.1
Fundamental concepts
for the description
and evaluation of
corrective taxes

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

Secondly, any corrective tax will have a revenue effect. The potential for generating additional fiscal resources benefits government finances and even allows some of the revenues to be allocated to programmes to mitigate the phenomena being discouraged. This is a result expected in the short term, merely owing to the heavier effective tax burden that falls on the goods whose consumption is considered harmful (as a result of a hike in tax rates, expansion of the tax base, and other factors). In the medium term, if these taxes are effective in discouraging consumption the tax bases in question will shrink, so the revenue flow would likely diminish over time and tend to broadly stabilize at lower-than-current levels in the long term.

Third, the non-revenue effects of a corrective tax can vary according to the objective being pursued. In the public-health domain, selective or differential taxes on products such as tobacco, alcohol or sugar-sweetened beverages can prompt changes in consumer habits and result in substantial improvements in people's quality of life. This includes a reduction in morbidity and mortality rates in respect of diseases that are clearly associated with the consumption of the taxed goods, fiscal savings in public health-care systems and increased labour productivity, the accumulation of human capital and, therefore, higher levels of total production. In terms of environmental protection, corrective taxes can help reduce the severity of the externalities and information failures they seek to remedy, particularly the costs associated with air and water pollution and the deterioration of ecosystems. This would produce welfare gains through a reduction in the prevalence of diseases associated with these phenomena, greater availability and conservation of the countries' natural resources and a more sustainable growth process.

On the other hand, an additional effect of taxes of this type, which has generally been used as an argument against them, concerns their effects on equity. Aside from the abundant evidence on the subject, it is undeniable that corrective taxes tend to be regressive: in other words, they fall more heavily on lower-income individuals and households, according to conventional estimates of distributive incidence. Nonetheless, the distributive impacts of a corrective tax are not confined to the income or expenditure of the individuals who consume the goods being taxed. For those that are particularly sensitive to price changes, the application of a corrective tax has greater non-revenue effects because the quantity consumed is cut back more sharply. Thus, if the most disadvantaged groups of consumers are found to have a higher elasticity of demand for the good targeted by the corrective tax, the short-term regressive effect on those who continue consuming the product will be offset by the expenditure savings enjoyed by

those who change their behaviour and actually reduce their consumption in the medium and long terms. The latter will receive relatively greater benefits from the non-revenue impacts that a tax with this corrective rationale seeks to generate.

Lastly, by reducing the consumption of a good considered harmful, a corrective tax is also likely to have effects on both producers and employment, given the foreseeable future drop in sales. Although this later effect will depend on the characteristics of each producer and each good targeted by the tax, the feasibility of productive reorganization or restructuring needs to be evaluated in order to achieve a new market equilibrium. This could have repercussions for employment in the sector of the taxed good—at least in the short term—which should be analysed in view of the possible reallocation of workers to alternative economic sectors. This will depend on the magnitude and speed of the changes in demand and supply, and the flexibility of the workers in the different stages of production in moving between these sectors.

In short, the new trends in tax reform, in developed and developing countries alike, provide a real opportunity for corrective taxes that aim mainly to generate economic signals to persuade consumers and producers to modify their behaviour, not only for their own benefit, but also for the benefit of society as a whole. Nonetheless, these instruments have a series of potential impacts that need to be evaluated carefully to ensure their effectiveness, taking advantage of the additional tax revenue that may be generated by their application and minimizing any undesired side-effects for both consumers and the economy at large. Tax innovations of this type raise a number of complex political-economy issues because they involve changes that mobilize various societal interest groups both for and against their effective implementation (Lorenzo, 2015). This underscores the importance of information and communication, both of the foundations justifying these lines of tax reform and of technical estimates of their expected effects on the citizenry, since this can contribute significantly to their political viability.

B. Corrective taxes and public health: the case of tobacco

According to the World Health Organization (WHO), tobacco use is the leading cause of preventable deaths, which are estimated at over 7 million per year worldwide.³ Although the latest data show a declining trend in the global prevalence of tobacco smoking in recent years, the mortality and morbidity rates associated with the practice remain high in most countries.

In Latin America, an estimated 380,000 people die as a result of tobacco consumption each year (Pichon-Rivière, and others, 2016). Moreover, the harmful consumption of the products in question generates substantial costs in terms of public expenditure to treat the diseases that it causes, both in the smokers themselves and among those who are otherwise exposed to tobacco smoke. The study found that smoking in the region absorbs about US\$ 34 billion from these countries' health budgets, which means losses equivalent to 0.7% of regional GDP and 8.3% of public-health expenditure.

International efforts and initiatives to address this problem include implementation of the WHO Framework Convention on Tobacco Control (WHO FCTC), of which the vast majority of Latin American countries are signatories (exceptions being Argentina, Cuba and Haiti). The Convention contains a set of concurrent strategies to steer countries in the difficult task of reducing the demand for tobacco at the national level. In addition to advocating for prevention and disseminating information to society, this

³ See WHO, "Tobacco" [online] <https://www.who.int/news-room/fact-sheets/detail/tobacco>.

global coordination instrument puts special emphasis on the objective of discouraging consumption by raising the taxes on tobacco products, and hence their price of sale to the public, especially in the case of cigarettes.⁴

Both for the external costs involved and for the serious health consequences of tobacco consumption, taxes are the most cost-effective tool of public intervention to reduce their consumption, especially among the most sensitive population groups and those vulnerable to the harmful public-health consequences. These include the youngest individuals and, in general, those with the least economic resources (Ross and Chaloupka, 2006).

It is also recognized that significant increases in the effective rates of these taxes have the potential to generate large amounts of revenue in the short term. A recent estimate for 31 countries in Latin America and the Caribbean suggests that a 50% increase in selective taxes on a pack of cigarettes would potentially generate around US\$ 7.05 billion regionwide (equivalent to a 32% increase in revenue from these taxes), with a 7% drop in sales volume in response to an average increase in the price of cigarettes of around 28% (Goodchild, Sandoval and Belausteguigoitia, 2017).

The revenue generated by selective taxes in Latin America currently reflects a wide variety of realities, although in most cases the amount collected is not very significant and represents a small proportion of the overall tax take. In some cases, however, it represents a large share of the revenue obtained from selective taxes (see table III.1).

Country	Percentages of GDP			Percentages of total revenue			Percentages of revenue from selective taxes		
	2006	2011	2016	2006	2011	2016	2006	2011	2016
Argentina	0.49	0.40	0.52	1.94	1.35	1.67	29.82	27.94	32.50
Brazil	0.10	0.09	0.09	0.29	0.26	0.28	13.46	16.39	32.35
Chile	0.52	0.61	0.60	2.37	2.88	2.96	37.81	42.36	39.28
Colombia	0.08	0.08	0.06	0.44	0.40	0.29	9.61	9.18	4.98
Costa Rica	...	...	0.10	...	...	0.47	...	...	3.84
Dominican Republic	0.21	0.19	0.12	1.54	1.55	0.91	6.79	6.67	5.34
Ecuador	0.16	0.20	0.16	1.27	1.16	0.79	29.35	26.25	19.16
El Salvador	0.18	0.20	0.12	1.00	1.11	0.59	16.94	17.56	7.91
Guatemala	0.14	0.07	0.07	1.02	0.55	0.56	11.58	8.61	8.25
Honduras	0.26	0.20	0.11	1.46	1.17	0.54	7.82	7.61	3.77
Mexico	0.15	0.21	0.19	1.27	1.57	1.21	38.83	32.07	9.06
Uruguay	0.62	0.53	0.39	2.46	2.00	1.39	25.45	25.39	19.80
Venezuela (Bolivarian Republic of)	0.24	0.44	1.19	1.51	3.69	8.11	39.44	68.52	64.34
Latin America (average of 13 countries)	0.26	0.27	0.29	1.38	1.47	1.52	22.24	24.04	19.28

Table III.1
Latin America (selected countries): tax revenues for selective taxes on tobacco products, 2006, 2011 and 2016

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Organization for Cooperation and Development/Economic Commission for Latin America and the Caribbean/Inter-American Center of Tax Administrations/Inter-American Development Bank (OECD/ECLAC/CIAT/IDB), *Revenue Statistics in Latin America and the Caribbean*, Paris, OECD Publishing, 2018 and official sources from the countries.

Note: No disaggregated data are available for Nicaragua, Panama, Paraguay, Peru and the Plurinational State of Bolivia.

⁴ While reference will be made here to tobacco taxation in general, covering the entire range of products containing tobacco for final consumption, the analysis of some specific issues will focus on cigarette taxes as being the most representative.

From the standpoint of corrective taxation, however, the revenue objective should not be the main justification for raising taxes on tobacco, although it may serve as an additional benefit. Instead, the aim is to exploit its potential to generate economic signals—through market prices—that trigger a change in individual behaviour, specifically a reduction in consumption, with the aim of obtaining improvements in public health, fiscal savings in health care and improvements in general well-being. In this connection, elasticities of demand, both with respect to price (direct and cross) and with respect to individual income are crucial.

Although each country has its particular features and requires specific analysis, there is abundant evidence that the price elasticity of demand for cigarettes is between -0.2 and -0.6 in most developed countries and between -0.2 and -0.8 in middle- and low-income ones. In both cases, this suggests that the change in quantities consumed of these products would be less than proportional to a change in their price (NCI/WHO, 2016). Despite a wide variety of estimates and methodologies for the Latin American countries, Guindon, Paraje and Chaloupka (2015) find that elasticity averages around -0.3 in the short term and -0.4 in the long term. This means that a 10% price hike would reduce consumption by between 3% and 4%, depending on the period of analysis. The fact that the demand for tobacco is inelastic in most countries does not prevent price policies, such as creating new taxes or increasing current ones, from achieving their public-policy objective. Instead, it underscores the need for rate hikes that are sufficient to force a change in those harmful behaviour practices, given the addictive nature of tobacco use.

Even large tax hikes do not guarantee that this type of measure will actually achieve satisfactory public-health outcomes, since the change in the tax implemented by the authorities has to be passed on to prices on a widespread basis and ideally in full. Although it is often assumed that the tax is passed on to consumers in full (given the low elasticity of demand and the fact that supply is concentrated in large tobacco companies), the reactions of producers to a potential loss of market share could produce exceptions. Some recent evidence suggests that with cigarettes, unlike other products, specific taxes are sometimes not fully passed on to the consumer but probably absorbed into the producer's profitability equation. This mitigates the impact of any tax change on both prices and the quantities consumed (Harding, Ephraim and Lovenheim, 2012).

A fundamental issue, which is common to other "corrective" taxes, concerns the design of the tax itself. In this connection, as different objectives can be pursued and the consumption of the product has specific characteristics according to the country analysed, international practice in tobacco taxation is highly varied, both around the world and within the region. This diversity is reflected in the different tax mechanisms applied to tobacco, in terms of the type of tax, the rates applied and the tax bases, as well as in the mechanisms available to administer it effectively.

Many countries apply a range of taxes on tobacco products simultaneously—mainly general consumption taxes, such as VAT, along with customs duties on imports and selective taxes. Nonetheless, the latter have received the most attention in recent years, possibly because their capacity to raise the price of tobacco relative to the price of other goods in the economy makes them more effective as a tool to improve public health.

Selective taxes on tobacco are widely used in tax systems throughout the world, with one or more variants present in around 170 countries according to WHO. These taxes lend themselves to different designs but, basically, they can either be specific—generally applied to a unit of product—or else they may be ad valorem—applied

as a percentage of the price of the product being taxed.⁵ Each has its advantages and disadvantages, according to the public-policy objectives in play. Nonetheless, the most recent experiences of countries and related studies show that specific taxes are more effective in raising prices —while also reducing the relative price differential between the cheapest and the most expensive products— as well as in terms of their impact on public health indicators. Nonetheless, they need to be adjusted periodically for domestic inflation to ensure that the effects are not eroded over time (WHO, 2010a).

Many countries have adopted mixed systems that take exploit the relative advantages of the two main types of selective tax. For example, the countries of the European Union share a harmonized tax system and apply a combination of both instruments in the case of cigarettes, with an ad valorem component varying between 1% and 52% of the retail price (taxes included) depending on the country, and a specific minimum component that currently ranges from 7.5% to 76.5% of the total cigarette tax burden (measured as the sum of the specific tax, the ad valorem tax and VAT). Moreover, a minimum total tax, equivalent to 60% of the weighted-average retail price, or an amount of € 90 per 1,000 cigarettes is provided for, irrespective of the reference price.

Latin America also uses a wide variety of criteria in the taxes applied and in their specific design, largely because the choice of these instruments and their effective implementation depends on the different constraints facing the tax administration, and also on the characteristics of the tobacco industry and political considerations that are specific to each country. Table III.2 summarizes the key elements of selective taxes imposed on tobacco in the region's countries.

Country	Tax system	Characteristics (rates and tax bases)
Argentina	Mixed	70% ad valorem on the retail price, with a fixed minimum tax of 28 pesos (US\$ 0.74) on each cigarette
Bolivia (Plurinational State of)	Specific	139 bolivianos per 1,000 cigarettes (US\$ 0.02 per unit)
Brazil	Ad valorem/ Mixed	300% on 15% of the sale price (general regime) /66.7% on 15% of the sale price plus 1.50 reais per pack (US\$ 0.02 per unit) (optional regime)
Chile	Mixed	49.82 pesos (US\$ 0.07) per cigarette + 30% ad valorem on the retail price
Colombia	Mixed	2,100 pesos (US\$ 0.03) per pack of 20 cigarettes + 10% ad valorem on the retail price
Costa Rica	Mixed	23.39 colones (US\$ 0.04) per cigarette + 95% ad valorem on the retail price
Dominican Republic	Mixed	26.08 pesos per 10 cigarettes (US\$ 0.05 per unit) + 20% ad valorem on the retail price
Ecuador	Specific	US\$ 0.16 per cigarette
El Salvador	Mixed	US\$ 0.0225 per unit + 39% ad valorem on the retail price
Guatemala	Ad valorem	100% on the retail price of packs of 10 or 20 cigarettes
Honduras	Specific	433.12 lempiras per 1,000 cigarettes (US\$ 0.017 per unit)
Mexico	Mixed	0.35 pesos (US\$ 0.018) per cigarette + 160% ad valorem
Nicaragua	Specific	551.21 córdobas per 1,000 cigarettes (US\$ 0.017)
Panama	Mixed	100% of the retail price with a specific minimum tax of 1.50 balboas (US\$ 1.5)
Paraguay	Ad valorem	18% on the retail price
Peru	Specific	0.27 soles (US\$ 0.08) per cigarette
Uruguay	Mixed	103.57 pesos (specific base) + 70% ad valorem resulting in a tax of 72.50 pesos per pack of 20 (US\$ 0.11 per unit)
Venezuela (Bolivarian Republic of)	Ad valorem	70% on the retail price

Table III.2
Latin America
(18 selected countries):
main characteristics
of selective taxes
on cigarettes

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of current legislation in the selected countries.

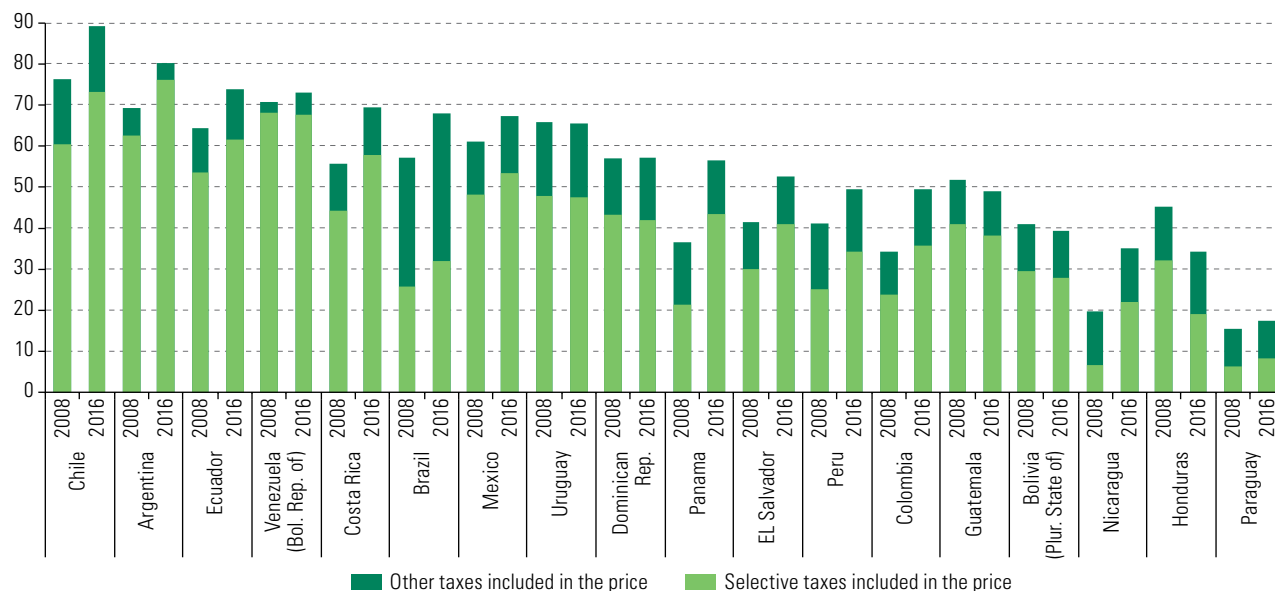
⁵ The price of the product at a given point in the marketing chain can be used as a reference, whether it is the factory price (which does not include any taxes), the wholesale price (whose definition differs from one country to another and may or may not include selective taxes, but in no case includes VAT), or the retail price (which includes both taxes).

As can be seen, specific selective, ad valorem and mixed or combined tax systems all coexist in Latin American countries, some of which include minimum amounts of tax per unit of product. In terms of the tax base, ad valorem systems generally refer to the retail price, while specific taxes are based on the unit or number of cigarettes per pack. Some countries also operate an automatic price updating system. In all countries of the region, tobacco taxes are levied at a single rate, which is simpler for the tax administration and reduces incentives for evasion.

In relation to the above, WHO has been recommending that the rate resulting from the application of selective taxes on tobacco should amount to at least 70% of the price of sale to the end-consumer. This rate will be even higher if other taxes (such as VAT) are also applied to products as covered by the selective tax. A recent study by the Pan-American Health Organization (PAHO, 2018), although using data up to the end of 2016, reports the following: (i) only three countries —Argentina, Chile and Cuba— attained the WHO-recommended tax burden on cigarettes in the case of selective taxes (the Bolivarian Republic of Venezuela and Ecuador would be added to the list if all taxes on these products are considered); (ii) a regional trend towards an increasing tax burden on cigarettes in the vast majority of the 18 selected Latin American countries; and (iii) selective taxes represent the largest portion of the current tax burden for these goods, with certain exceptions, such as Brazil or Paraguay (see figure III.2).

Figure III.2

Latin America (18 countries): burden of selective taxes and total taxes on cigarettes, 2008 and 2016
(Percentages on the sale price of the most popular brand in each country)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of World Health Organization (WHO), Global Status Report on Alcohol and Health 2018, Geneva, 2018.

In recent years, several of the region's countries have continued making specific reforms to their tobacco taxation systems. Although there are substantial differences in the context in which they were developed, and also in the corresponding prior situation and subsequent scope, the vast majority of these countries have used the tax hike to raise the price, and thus elicit a reduction in tobacco consumption, aside from expected additional revenue intake.

The way tobacco is taxed has also changed in some cases. Argentina raised its ad valorem rate from 60% to 75% in 2016; then a year later it reformed the ad valorem and specific components of the tax then in force, by reducing the nominal rate of the domestic tax by 5% (from 75% to 70%) and increasing the fixed amount per pack (or minimum tax), which went up to 28 pesos per pack (75% of the price of the best-selling brand) with a quarterly update based on the variations of the consumer price index. In the Plurinational State of Bolivia, in 2018, the price paid at origin was taxed at a fixed amount per cigarette: the tax rose to 139 bolivianos per 1,000 units of black cigarettes and cigars, 74 bolivianos for blond cigarettes and 50% ad valorem for other tobacco products. In Chile, in 2014, the specific tax was raised eight times, and the ad valorem tax was lowered from 60.5% to 30% so that, for a pack of 20 cigarettes, the specific tax went from 109 pesos to approximately 870 pesos, and is now around 1,000 pesos.⁶ Similarly, in Colombia, a tax was introduced in 2016 that was charged at 1,400 pesos in 2017 and 2,100 pesos in 2018 for each pack of 20 cigarettes, in addition to 10% on the retail price.

Ecuador, Paraguay and Peru all increased the tax burden on tobacco, but without changing the type of tax. In Ecuador, in 2016, the tax was raised from US\$ 0.1310 to US\$ 0.16; in Peru, in 2018, the rate per cigarette went from 0.18 soles (US\$ 0.05) to 0.27 soles (US\$ 0.08), which was the second increase in two years, having been raised from 0.07 soles to 0.18 soles per cigarette in May 2016. In Paraguay, in 2018, the tobacco tax was increased from 16% to 18%, following a process of debate in which a proposal had been made to raise it to 30%; while in Uruguay, where the effective tax burden had been increased significantly in previous years, the minimum specific tax base was updated, which, together with the 70% ad valorem rate, brought the minimum tax to 72.50 pesos per pack (equivalent to US\$ 0.11 per unit).

Most of the reforms implemented in the region in recent years seem to be in line with the international recommendations on the subject (WHO, 2015a; World Bank, 2018a), at least in terms of using specific selective taxes, ensuring a larger share for that component in mixed systems, and charging a comparatively high rate on the majority of mass consumption products.⁷ Nonetheless, the diversity of realities and the different speeds at which the region's countries are pursuing reforms of this type are also related to another of the main international lessons: tax design features, especially in the case of tobacco, cannot be modified without taking into account the intrinsic complexity involved in administering taxation on products of this type.

The recurrent insistence on the desirability of using selective tax systems that are simple to administer (for example, single-rate rather than step-wise differential rates) is linked to the problem of the unlawful trade and smuggling of tobacco products which, in Latin America also, constitutes one of the chief obstacles to public policies implemented by the government. Although an increase in tobacco taxes in one country could lead to a wider price differential with respect to its neighbours, and hence to an increase in cross-border purchases, the smuggling of these products is not explained by the tax level, but by failures in the application of institutional controls. This challenge requires the implementation of multiple measures such as monitoring and location systems to track the route of tobacco products at all points in the supply chain, irrespective of origin: domestic production or imported.

⁶ Since the specific component is calculated in terms of Monthly Tax Units (UTM) and the 2014 reform set a rate equivalent to 0.0010304240 UTM per cigarette, as of January 2019 the specific tax is approximately 50 pesos per unit.

⁷ An unresolved debate at the regional level regarding tobacco taxation concerns the specific treatment of the increasingly popular electronic nicotine delivery systems (ENDS), commonly known as e-cigarettes. These products, while not considered as tobacco products under the WHO/FCTC definition, have been gaining many followers in recent years in several countries of the region, including some where their sale is prohibited (Argentina, the Bolivarian Republic of Venezuela, Brazil, Mexico, Panama and Uruguay). Several OECD countries have made progress on specific tax reforms in this area in recent years.

Various political-economy issues also need to be taken into account when considering this type of reform. According to the available evidence, concerns about the regressive nature of tobacco taxes can be addressed if it can be shown that potential benefits are greater for the most vulnerable sectors of the population: young people and those with lower incomes tend to be more responsive to price variations and thus change their harmful behaviour to a relatively greater extent. They receive greater benefits in terms of health and also savings in health care expenses (Goodchild, Perucic and Nargis, 2016). To assess the impact on the tobacco industry and employment requires specific analysis; but the evidence thus far seems to suggest that in most countries tobacco control policies probably have a neutral or positive effect on employment generally (WHO, 2015a). In both cases, the earmarking of part of the additional resources, despite a number of downsides, seems to be a valid way for countries not only to strengthen the financing of public health programmes combatting the problem of tobacco consumption, but also to cushion the short-term negative effects that a hike in tobacco taxes could impose on certain population groups.

C. Corrective taxes and public health: the case of alcohol

Alcohol abuse is responsible for over 3 million deaths worldwide every year, according to WHO estimates. In the Latin American countries, the equivalent figure is about 300,000, of which 80,000 would not occur but for the consumption of alcohol. On average, more alcohol is consumed in the region than elsewhere in the world, and with greater intensity; and projections see consumption increasing in the next ten years (PAHO, 2015).

Although the harmful consequences of alcohol consumption have long been recognized and have historical roots that vary between countries, in recent years the seriousness of the problem has become increasingly evident; and effective control policies and measures need to be designed and implemented to address it. Promisingly, there are several international strategies and initiatives that aim to establish basic guidelines for addressing this global public health challenge, such as the WHO Global Strategy to Reduce the Harmful Use of Alcohol (see WHO, 2010b), which is also linked directly to part of the 2030 Agenda. This framework stresses the importance of adopting a comprehensive approach embracing multiple lines of action, including taxing alcoholic beverages to discourage their consumption, in conjunction with other pricing mechanisms to make these products less affordable and help change harmful behaviour (Babor and others, 2010).

The taxation of alcohol is widespread both globally and throughout Latin America. In fact, most modern tax systems have, or have had since their origins, some kind of tax on the main alcoholic beverages. In all cases, this measure has responded—and in many countries probably still responds—to the basic aim of raising revenues to finance the government. In most Latin American countries, however, these taxes are not revenue-significant, whether relative to GDP or in relation to indicators of overall revenue intake (see table III.3).

In recent years, the extra-budgetary role of alcohol taxation as a tool to correct harmful behaviour has been gaining priority among governments in various countries. The current trend in this domain is based on arguments related to the inability of markets themselves to produce optimal results and the consequent need for State intervention.

Country	Percentages of GDP			Percentages of total revenue			Percentages of revenue from selective taxes		
	2006	2011	2016	2006	2011	2016	2006	2011	2016
Argentina	0.03	0.02	0.03	0.13	0.08	0.09	2.03	1.72	1.80
Brazil	0.11	0.07	0.04	0.31	0.21	0.13	14.67	13.10	15.18
Chile	0.12	0.11	0.14	0.52	0.52	0.70	8.37	7.64	9.25
Colombia	0.49	0.39	0.39	2.55	2.08	1.96	55.75	47.36	34.18
Costa Rica	0.19	0.15	0.14	0.92	0.73	0.62	6.15	5.52	5.12
Dominican Republic	0.84	0.74	0.71	6.15	5.96	5.24	27.18	25.60	30.63
Ecuador	0.18	0.20	0.23	1.39	1.15	1.15	32.10	26.00	27.74
El Salvador	0.25	0.32	0.35	1.42	1.78	1.74	24.12	28.11	23.46
Guatemala	0.09	0.07	0.08	0.68	0.58	0.60	7.78	9.20	8.96
Honduras	0.20	0.19	0.21	1.13	1.11	0.97	6.05	7.26	6.79
Mexico	0.19	0.19	0.23	1.54	1.47	1.46	46.82	29.94	10.99
Nicaragua	0.46	0.47	0.47	2.66	2.30	2.08	14.68	16.82	16.27
Panama	0.20	0.13	0.11	1.29	0.77	0.64	28.02	14.01	9.98
Peru	0.37	0.35	0.35	2.04	1.91	2.16	25.18	33.31	37.00
Uruguay	0.16	0.16	0.12	0.64	0.62	0.43	6.63	7.82	6.15
Venezuela (Bolivarian Republic of)	0.17	0.20	0.66	1.09	1.69	4.50	28.35	31.48	35.66
Latin America (average of 16 countries)	0.25	0.24	0.27	1.53	1.43	1.53	20.87	19.06	17.45

Table III.3
Latin America (selected countries): revenue from selective taxes on alcoholic beverages, 2006, 2011 and 2016

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Organization for Cooperation and Development/Economic Commission for Latin America and the Caribbean/Inter-American Center of Tax Administrations/Inter-American Development Bank (OECD/ECLAC/CIAT/IDB), *Revenue Statistics in Latin America and the Caribbean*, Paris, OECD Publishing, 2018 and official sources from the countries.

Excessive consumption of alcohol gives rise to a number of external costs, which are perhaps even more evident than in the case of smoking. These include traffic accidents, domestic violence, financial pressures on health systems and diminished work performance, productivity and, ultimately, potential economic growth. Taxes can help reflect these costs appropriately so that consumers bear not only the private costs of their harmful behaviour, but also the social cost. Excessive consumption of alcoholic beverages also has tangible and intangible costs that result from their irrational consumption. These arise from the addictions they generate in a segment of the population, and from misinformation or underestimation of the harmful consequences for consumers in the medium and long terms. In this case, selective taxation could also signal the costs in question to the public.

Both for the revenue objective and to correct externalities and market failures, or even if the aim is to discourage alcohol consumption among the youngest members of society, the use of alcohol taxes as a tool of public policy is based on their potential impact on the price of alcoholic beverages, on how this translates into a reduction in the amount consumed and, ultimately, the final effects on public health and other dimensions in which their consequences usually make themselves felt.

As noted above, direct and cross-elasticities of demand are crucial here, especially when predicting the potential benefit of this type of measure. Fortunately, there are now many academic studies that have provided evidence on the potential impacts of alcohol taxes in different cases.

The vast majority of elasticity estimations show that, while respecting the inverse relationship between prices and quantities (law of demand), consumption is likely to decrease by proportionally less than any given increase in prices. For example, in an extensive systematic review of case studies, Wagenaar, Salois and Komro (2009) find that a 10% increase in the price would lead, on average, to reductions in consumption of around 4.6% for beers, 6.9% for wines and 8.0% for liqueurs and spirits. Individuals who consume the most are also found to have the lowest general sensitivity to price changes. The available evidence also shows that price increases, such as those produced by tax hikes, reduce both the prevalence and the frequency and intensity of alcohol consumption, with generally greater effects on the youngest. They also generate positive public health outcomes, such as reductions in mortality linked to this harmful behaviour, traffic accidents and sexually transmitted diseases, among others (Wagenaar, Tobler and Komro, 2010).

The evidence described above needs to be treated with caution. Firstly, the analysis of elasticities in the case of alcohol needs to consider the characteristics of the consumption and production of alcoholic beverages in each country, since the final response of quantity consumed following a tax hike —usually referred to as tax elasticity— will also depend on the market structure and the extent to which the producer shifts the tax on to the consumer by raising the retail price.

Secondly, the public-health impacts of a hike in the price of alcohol, even assuming the tax is fully passed on, usually require a relatively long observation period. While the direct effects can materialize in the short term, the non-revenue effects require a longer-term view and a continuous process of evaluation to establish causal relationships in an appropriate manner. There is also the additional complexity of specifying the public-health objective, when the socially ingrained focus of control of alcoholic beverages aims to moderate consumption rather than achieve complete abstinence —unlike the case of tobacco, where there is no level of consumption that is “safe” for human health.

As regards international practice specifically, since it is a mass consumer good, and given the typical configuration of current tax systems, alcoholic beverages are generally subject to a set of indirect taxes —in particular, general taxes such as VAT, customs duties and selective taxes. Although all of these affect the final price faced by consumers of alcohol, selective taxes are of particular interest for public policies because they tax alcoholic beverages differentially, thereby making them the instruments with the greatest potential impact to affect consumption.

A recent WHO publication (WHO, 2018) reports that 155 countries applied a selective tax on alcohol in 2016. As expected, there is wide variety in the types of taxes applied, with different rates and tax bases. The alternatives depend on whether the tax is assessed on the volume of pure ethanol or alcohol content of the beverage (specific tax), the total volume or size of the beverage container (unit tax), the price of the product (ad valorem tax), or a combination thereof; for example, mixed systems that consist of a specific minimum tax and an ad valorem component applied on a reference price (at either the manufacturer or the retailer level).

Naturally, each alternative has its advantages and disadvantages, and the choice must be determined by a set of political, sectoral and tax-administration factors that are specific to each context. Nonetheless, aside from diversity and on the basis of concrete evidence, the current recommendation on alcohol taxation advocates a specific tax based on alcohol content (rather than volume or weight or the ad valorem variant), because it has the greatest potential effect on health by encouraging consumers to switch to beverages of lower alcohol content. Nonetheless the tax rates need to be updated periodically to ensure that the corrective impact is not diminished by inflation (Sornpaisarn and others, 2017).

The situation varies widely across Latin America (see table III.4). In most cases, the systems applied differ by type of product and, in a few cases only, according to the alcohol content of the product in question. There are special subcategories and rates for specific products (such as craft beers) and calculations based on both the value and the nature of the product, which makes it difficult to estimate the effective burden of the selective tax as faced by the consumer. Nonetheless, certain regularities can be discerned, such as higher rates on wines than on beers (except in Argentina for example), and even higher rates on liqueurs and distilled beverages; or use of the retail price (including the tax itself) as the tax base for ad valorem taxes.

Country	Type	Rate (according to product taxed)			Tax base
		Beer	Wine	Spirits	
Argentina	Ad valorem	16.3%	0%	35.1%	Manufacturer's selling price
Bolivia (Plurinational State of)	Mixed	3.17 per litre + 1%	3.33 per litre + 5%	13.89 per litre + 10% ad valorem	Fixed amount (in bolivianos) per litre + percentage on the price of sale to the public
Brazil	Ad valorem	6%	10%	20%, 25%, 30%	Sale price including tax itself
Chile	Ad valorem	20.50%	20.50%	31.50%	Sale price (same as VAT)
Colombia	Ad valorem	20%	25%	35%/40%	Sale price
Costa Rica	Mixed	1.47 colones/ml + 10%	1.75 colones/ml + 10%	2.02 colones/ml + 10%	Ad valorem + according to alcohol content in ml. The tax does not apply to domestically produced beverages intended for export
Dominican Republic	Mixed	10% + 616.69 pesos			Sale price + volume of alcohol (litre)
Ecuador	Specific	US\$ 12 per litre of pure alcohol			Litres of pure alcohol
El Salvador	Mixed	US\$ 0.09/0.16 per percentage point of ABV per litre + 8% ad valorem			Retail price + volume of alcohol
Guatemala	Ad valorem	6.0%	7.5%	8.5%	Suggested retail price
Honduras	Specific	5.34 lempiras per litre	6.70 lempiras per litre	36.18 lempiras per litre	Net volume
Mexico	Ad valorem	26.5%	26.5%-30.0%	53.0%	Sale price
Nicaragua	Ad valorem	33%/36%	37%	37%	Manufacturer's selling price
Panama	Specific	0.045 balboas per ° GL per litre			Alcohol content by volume
Paraguay	Ad valorem	8%	10%	10%	Sale price
Peru	Mixed	1.25 soles and 35% ad valorem (<6% ABV); 1.70 soles + 20% (between 6% and 12% ABV); 2.70 soles + 30% (between 12% and 20% ABV)	3.40 soles per litre (>20% ABV) + 40% ad valorem		Sale price
Uruguay	Specific	67.16 pesos + rate of 30%	168.28 pesos + rate of 30%	164.29 pesos + rate of 48% (whisky)	Minimum specific base per physical unit sold + ad valorem component applied to the difference between the manufacturer's selling price and the fixed amount.
Venezuela (Bolivarian Republic of)	Ad valorem	15%	35%	50%	Sale price

Table III.4
Latin America and the Caribbean (selected countries): main characteristics of corrective taxes on alcoholic beverages, 2018

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of each country's tax legislation.

In recent years, several of the region's countries made reforms to their alcohol taxation, generally differentiating by type of product. In 2014, Chile set a common rate of 20.5% for wines and beers (previously 15.0%) and the rate for distilled beverages was raised from 27.0% to 31.5%. In Colombia, the tax on domestic beers was raised by 6.65% from 317.95 pesos per 300 cm³ unit in 2016 to 339 pesos per unit in 2017. In Panama, an increase of 4.5 cents (0.045 balboas) was approved in 2015 for the tax on wines, liqueurs and spirits, and beers, which also applied to alcoholic beverages

of alcohol content below 20%. In Ecuador, in 2016, the special consumption tax (ICE) on beer was increased from US\$ 7.24 to US\$ 12 per litre of pure alcohol. The 2012 tax reform in the Dominican Republic altered the rates of specific taxes on alcoholic beverages. Since 2013 the tax has been updated annually: in that year wine paid 489.6 pesos per litre of pure alcohol, while in 2016 the tax was raised to 567 pesos and then in 2017 to 595.4 pesos.

In Argentina, taxes were raised on beers and high-alcohol beverages in 2017, from 8.70% to 16.30% and from 25% to 35.10%, respectively (the reform introduced envisaged taxing wine and champagne also, but this was not approved). In the same year, in the Plurinational State of Bolivia, the specific rates of the selective tax (ICE) were updated and a 1% rate was established for malt beer of 0.5% alcohol by volume (ABV); 3.33 bolivianos per litre of wine of any type; 3.33 bolivianos per litre plus a 5% rate for cider or sparkling wine; 13.89 bolivianos per litre plus a 10% rate for whisky, and 3.33 bolivianos per litre plus 10% for distilled beverages such as rum, pisco, gin and vodka (5% in the case of liqueurs). In addition, the import tariff on any type of alcoholic beverage was increased by 40%. In Peru, the Selective Consumption Tax (ISC) was increased for alcoholic beverages in 2018: liqueurs or spirits of between 0% and 6% alcohol concentration maintained the ISC of 1.25 soles per litre produced, and the rate charged on the sale price rose from 30% to 35%. New scales were established for beverages with an alcoholic content between 6% and 20% ABV, while spirits of more than 20% ABV maintained the tax of 3.40 soles per litre, but saw their ad valorem rate rise from 25% to 40%.

Until now, the extent of the reforms to alcohol taxation has faced a series of recurrent obstacles, including the likely regressive incidence of these taxes under conventional standards. As in the case of tobacco, this could be valid in some cases depending on the share of alcoholic beverages in total household expenditure. The evidence on this from the region's countries is mixed, depending on the type of beverage considered. Moreover, the results depend on whether the effect is analysed for all households, or specifically for those that consume alcoholic beverages (Sassi and others, 2018). A more comprehensive view would need to consider elasticities at each income level and by age group. It would then be possible to predict whether the potential effects of an increase in a corrective tax, and hence a price rise, in terms of reducing the prevalence of excessive consumption and improving consumers' health and daily life will be biased in favour of individuals who are most exposed and vulnerable to alcohol abuse —either because of their consumption patterns or because of a lack of access to health-care services.

In addition, the potential effect of corrective taxes on alcoholic beverages could be undermined by unregistered consumption. This is quite significant in some Latin American countries and covers all alcohol that is not subject to taxation or does not pass through quality-control mechanisms. That is why its production, distribution and commercialization is not regulated or subject to government oversight, therefore, there are no reliable statistics on its scale. In addition to smuggling, this includes the production of liqueurs and spirits and other beverages using artisanal methods and cross-border purchases. The World Health Organization estimates that this unregistered consumption, which is beyond the reach of selective taxation, represents a quarter of total consumption worldwide; in Latin America, non-registered consumption averages 17% of the total, although in most Andean and Central American countries it exceeds 20% and can run as high as 30% (PAHO, 2015). A significant tax hike could thus provide financial incentives for greater evasion and for bootleg production and trade, which is why the tax authority needs to put control and inspection strategies in place to ensure collection and prevent the commercial production and consumption of beverages of dubious origin.

D. Corrective taxes and public health: the case of sugar-sweetened beverages

Obesity is one of the main global health risks and a cause of numerous noncommunicable diseases, such as diabetes, cardiovascular diseases and various types of cancer in all countries. According to WHO estimates, more than 1.9 billion adults (39% of the world adult population) were overweight in 2016; and, of these, over 650 million (13%) were obese. More than 2.8 million deaths per year were attributed to these disorders. Between 1975 and 2016 the total global prevalence of obesity almost tripled; and it rose even more among younger people (from 4% to 18% in children and adolescents).

According to *Panorama of Food and Nutrition Security in Latin America and the Caribbean* (FAO/PAHO, 2017), in Latin America and the Caribbean there are some 360 million people who are overweight, representing about 58% of the region's inhabitants; and obesity affects roughly 140 million people and causes 300,000 deaths per year. Obesity affects women disproportionately, since the female obesity rate is 10 percentage points higher than the male rate in more than 20 of the region's countries. Among infants, 7.2% of the region's children under five years of age are overweight (compared to a global average of 5.6%), which is equivalent to 3.9 million children.

The consequences of obesity for human health have become more evident in recent times, as all the main indicators for the region have deteriorated gradually over the last 30 years. The increased intake of foods with a high caloric content —rich in fats and sugar— in conjunction with lower rates of physical activity arising from more sedentary forms of work and social life that are characteristic of increasing urbanization, have clearly aggravated this phenomenon. Fortunately, however, there is a growing social awareness of the need for government intervention in this matter, with public policies targeted more intensively to that end.

Pricing policies, especially the application of corrective taxes, are recognized as a fundamental part of modern strategies to address this problem by offering the possibility of inducing a reduction in the consumption of harmful foods and beverages that act against a healthy diet. Although this is applicable to a large group of products, in recent years the tendency to introduce or increase taxes on sugar-sweetened beverages has had repercussions, since these are closely associated with the prevalence of obesity, especially among the youngest and lowest-income population groups, because of their high sugar content and because they are mass consumption goods. Although less widespread, there have also been some cases of taxes imposed on different types of harmful foods such as those rich in fats, or “junk” food (WHO, 2015b).

As with tobacco and alcohol, taxes on sugar-sweetened beverages and unhealthy foods in general are based on their potential effect on the prices of these products. As noted above, this requires an analysis of the relevant elasticities of demand and of the market structure of the product whose consumption is to be discouraged through the corrective tax. In this case, the increasingly abundant evidence shows that the consumption of sugar-sweetened beverages is more negatively responsive to price changes than tobacco and alcohol (Powell and others, 2013).

Recently there have been cases of tax reforms with this orientation, in both developed and developing countries, including some of Latin America and the Caribbean. Among the former, taxes on sugar-sweetened beverages were introduced or altered in France (2012), Belgium (2016) and more recently Portugal (2017), as well as in the United Kingdom and Ireland (both in 2018). Similar taxes had previously been implemented in Finland and Hungary (both in 2011). In Denmark a tax on sugar-sweetened beverages was applied from 1930 until it was abolished in 2014; and a tax on fats was introduced

in 2011, which was then also repealed two years later. In the United States, various versions of taxes on sugar-sweetened beverages have been adopted at the subnational level (Albany, Berkeley, Oakland, San Francisco, Seattle). There are also taxes of this type in countries such as Egypt and the Philippines, as well as in Thailand, which in April 2018 joined South Africa as one of the latest countries to innovate in this domain.

In Latin America, several countries have considered introducing or reforming public health-oriented taxes in recent years. Those that have succeeded in making significant changes include Barbados, Chile, Ecuador, Mexico, Peru and the Plurinational State of Bolivia. In other cases, such as Argentina, Colombia or Paraguay, a proposal of this type was promoted by the governments of the day but, for various reasons, did not survive the parliamentary debate (see table III.5).

Table III.5
Latin America and the Caribbean (selected countries): recent major reform projects on the taxation of sugar-sweetened beverages

Country	Year of reform or reform proposal	Characteristics
Argentina	2017 (rejected)	The reform proposal involves raising the effective rate from 8.7% to 20.5% and lowering or maintaining the rate on mineral water. The proposal was rejected.
Barbados	2015	A selective tax of 10% was introduced on sugar-sweetened beverages, except for 100%-natural waters and juices.
Bolivia (Plurinational State of)	2017	Specific selective tax rates were raised to 0.43 bolivianos per litre for sugar-waters and sugar-sweetened beverages and 4.84 bolivianos per litre for energy drinks.
Chile	2014	The special rate on sugar-sweetened beverages was raised from 13% to 18%, and the rate on other beverages was lowered from 13% to 10%.
Colombia	2016 (rejected)	A tax was proposed on sugar-sweetened beverages (300 pesos per litre at producer level), but it was not passed.
Ecuador	2016	A tax of US\$ 0.18 per 100 grams of sugar per litre was established for sugar-sweetened beverages (25 grams per litre), while other beverages (milk products, waters, and natural juices (50% fruit) were exempted.
Mexico	2014	A tax of 1 peso per litre (about 10% of the price) was introduced on sugar-sweetened beverages.
Panama	2018 (under consideration)	This year a tax on sugar-sweetened beverages (an increase in the selective tax from 5% to 8%) has been under consideration, with its revenue specifically earmarked to finance prevention and treatment programmes.
Paraguay	2018 (rejected)	A proposal to raise the rate from 5% to 20% was presented to Congress, but its application was postponed until 2019.
Peru	2018	The tax rate was increased from 17% to 25% for sugar-sweetened beverages containing at least 6 grams of sugar per 100 millilitres.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the tax legislation of the countries and reform projects presented.

Countries that have approved reforms include Chile, which in 2014 raised its VAT rate from 13% to 18% for all non-alcoholic beverages containing more than 6.25 grams of added sugar or sweetener per 100 millilitres of liquid. At the same time, it lowered the tax rate on beverages containing added sugar below the benchmark level from 13% to 10%.⁸ In Peru, in May 2018 the selective tax rate was raised to 25% for all non-alcoholic beverages, including flavoured waters and non-alcoholic beers with an added sugar content of at least 6 grams per 100 millilitres, but not for fruit or vegetable juices.

The leading case in this regard at the regional level has been Mexico, which in 2014 introduced a levy of 1 peso per litre (at that time, roughly 10% of the selling price). In addition, an ad valorem tax of 8% was applied on snacks and “junk” food. Cumulative evidence has shown that, aside from generating additional revenues, the tax on sugar-sweetened beverages has caused a reduction in the consumption of these products in the first two years after its implementation (6%-12% in 2014 and 8% in 2015), with a greater response from lower-income consumers (9%-17% in 2014). In conjunction with an increase in the consumption of bottled water, this suggests a

⁸ This measure was complemented with others that also seek to combat the spread of obesity and poor diet, such as a 20% tax on foods that exceed 275 calories or 10 grams of added sugar per 100 grams of food.

degree of substitution towards healthier products (Colchero and others, 2016). Moreover, the prices of the taxed products did indeed rise in response to the tax in line with the previously calculated elasticities (Grogger, 2015).

One of the main objections faced by tax reform proposals that have public-health objectives concerns the potentially regressive nature of the tax on sugar-sweetened beverages. The example of Mexico has also shown that the majority of lower-income households spend relatively less on such products yet still show greater sensitivity to price changes, which is why they will likely gain most in terms of public-health improvements (Colchero and others, 2017).

The international evidence confirms these characteristics of the tax on sugar-sweetened beverages, provided that significant rates (greater than 20% of the retail price) are applied (Sassi and others, 2018). In terms of the design of the tax, although there are several ways to achieve this objective, there is a consensus, supported by firm evidence, on the relative advantages of specific taxes in terms of their potential effectiveness as a public-health policy instrument: (i) they reduce incentives to buy cheaper variants of the same product, since all products with certain characteristics face the same tax; and (ii) they generate more stable revenue and are not subject to price manipulation by the firms, although it is essential that their value is adjusted regularly to avoid erosion by inflation (Sharma and others, 2014). Most of the most recent international experiences based on public health objectives, including the Mexican case, confirm this trend of preference for specific taxes. In Latin America, however, examples of all three systems can be found, while the rates also display wide dispersion, although the vast majority are below the 20% rate recommended by WHO for effects in terms of changes in eating habits and health indicators (WHO, 2015b). Peru is an exception in this regard with an ad valorem tax of 25%.

The possible alternatives for sugar-sweetened beverages include assessing the specific tax on the basis of liquid volume or sugar content. Thus, although the choice of tax instrument will depend on factors specific to each context, taxing according to nutritional content appears to be the most effective way to improve nutrition habits. This is because, in addition to inducing a reduction in consumption and preventing migration towards lower-price substitutes, it encourages consumers to replace the taxed products with less harmful or healthier alternatives. Moreover, unlike what happens when the product is taxed by volume, it also encourages producers to reduce the amount of sugar in existing beverages and to develop new alternatives with less of this ingredient. Nonetheless, as noted by Marron, Gearing and Iselin (2015), this approach has its own complexities. Political discussions usually focus on beverages with added sugar; but, strictly speaking, it would also be necessary to consider specific treatment for fruit juices (which are usually exempt from these taxes), along with beers and other beverages that contain sugar naturally, if it is the overall sugar content—rather than added sugar—that is the chief public-health concern.

The design of the tax is very important in this particular case because sugar-sweetened beverages differ substantially in terms of their physical sugar content, which, ultimately, is the element whose consumption corrective taxes seek to discourage. Taxes based on volumes or sales ignore these differences, which has given rise to some hybrid instruments, such as in Hungary, where the tax applied is based on the volume sold but exempts sugar-sweetened beverages when the sugar content is less than 8 grams per 100 millilitres.

Nonetheless, the most recent reforms aim to tax a wide range of sugar-sweetened beverages with specific taxes assessed on the basis of sugar content in grams. Examples include the recent taxes introduced in the United Kingdom, Ireland and France where, in July 2018, the original design of the tax was modified to establish a progressive scale with an initial rate of 0.03 euros per litre, which rises gradually by 0.02 euros for every 10 grams of

additional sugar for most sugar-sweetened beverages. These experiences merely demonstrate the variety of alternatives available to the countries of the region and the need to factor different technical issues into discussions on these public-policy instruments.

E. Corrective taxes and the environment in the region's countries

The concept of sustainable development is premised on a recognition that most economic activities cause environmental damage that affects both the person that engages in the activity and also the rest of society, which, generally speaking, is not properly considered by the former. As in the public-health sphere, the use of corrective taxes is one of the alternatives with the greatest potential to produce changes in individuals' behaviour, correcting both specific information failures and externalities, to protect the environment.

Although the use of taxation as an efficient mechanism to solve problems of environmental pollution is longstanding in the aforementioned Pigouvian prescription (Pigou, 1920), the development and practical implementation of this type of instrument is much more recent. Its origin, at least in the version that has subsequently had practical repercussions in other parts of the world, dates back to the early 1990s when a group of developed countries in northern Europe started to explore alternatives of this type and introduced the first versions of "green tax reforms".⁹

With the passage of time and greater international awareness of worsening environmental problems on a global scale, the potential of environmental taxes as a public-policy instrument has steadily gained prominence in the main developing-country discussion forums. In Latin America, this trend had some impact, with a number of experiences and specific efforts being undertaken on the subject in the last decade. Nonetheless, the diversity of instruments available and the multiple ways of implementing them have always posed problems when comparing the effective and potential magnitude of taxes of this type in the region's different countries.

For more than two decades, the Organization for Economic Cooperation and Development (OECD), the International Energy Agency (IEA) and the European Commission have agreed on a broad set of environmental taxes, defining them as "any compulsory, unrequited payment to general government levied on tax bases deemed to be of particular environmental relevance". This includes taxes, fees and charges levied on energy products (including fossil fuels), motor vehicles, solid and liquid waste, measured or estimated gaseous emissions and natural resources generally (OECD, 2010).

This classification makes it possible to include all instruments with a potential in terms of environmental policy to discourage harmful behaviour towards the environment, even if they were not originally—or are not currently—designed with an explicit environmental purpose or orientation. Moreover, it represents a fundamental approach to the range of possibilities for environmental taxation for each of the region's countries.

In Latin America, the revenues collected through environmental taxes vary widely between countries. The latest available figures show that they contribute an average of close to 1.3% of GDP and 6.4% of total revenue intake, varying little from previous periods. For OECD member countries—including Chile and Mexico—the average figures are slightly higher relative to GDP, but similar in their share of the total tax burden (see table III.6).

⁹ For a systematic description of these reforms, see Fanelli, Jiménez and López Azcúnaga (2015).

Country	Percentages of GDP			Percentages of the total		
	2006	2011	2016	2006	2011	2016
Argentina	1.21	1.09	1.23	4.81	3.71	4.00
Bolivia (Plurinational State of)	2.21	1.49	1.48	11.48	6.77	5.68
Brazil	1.01	0.92	0.77	2.90	2.77	2.40
Chile	1.05	1.05	1.22	4.77	4.97	6.03
Colombia	0.71	0.55	0.69	3.72	2.94	3.47
Costa Rica	2.38	2.26	2.24	11.38	10.64	10.02
Dominican Republic	2.42	2.25	1.89	17.75	18.18	14.01
Ecuador	0.16	0.29	0.44	1.27	1.65	2.18
El Salvador	0.47	0.60	0.68	2.65	3.33	3.40
Guatemala	1.12	0.78	1.02	8.16	6.13	8.15
Honduras	3.02	2.43	2.51	17.13	14.42	11.81
Mexico	0.24	0.33	1.54	1.96	2.54	9.79
Nicaragua	1.55	1.41	1.54	9.07	6.97	6.78
Panama	0.47	0.26	0.82	0.00	0.00	0.00
Paraguay	1.44	1.42	1.45	12.84	11.33	10.91
Peru	0.91	0.57	0.46	5.08	3.10	2.87
Uruguay	2.06	1.69	1.79	8.19	6.37	6.46
Latin America (17 countries)	1.32	1.14	1.28	7.25	6.22	6.35
OECD (36 countries)	2.36	2.28	2.35	7.05	6.99	6.89

Table III.6
Latin America and OECD (selected countries and average): tax revenues derived from environmental taxes, 2006, 2011 and 2016 (Percentages of GDP and percentages of total revenue)

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Organization for Cooperation and Development/Economic Commission for Latin America and the Caribbean/Inter-American Center of Tax Administrations/Inter-American Development Bank (OECD/ECLAC/CIAT/IDB), *Revenue Statistics in Latin America and the Caribbean*, Paris, OECD Publishing, 2018.

Nonetheless, there are clear disparities between Latin American countries, where environmental taxation has a different weight in each case. One extreme includes Costa Rica, the Dominican Republic, Honduras and also Paraguay, in all of which the revenues in question represent more than 10% of total tax revenue intake and between 1.5% and 2.5% of GDP in 2016. In contrast, other countries, such as Brazil, Colombia, El Salvador or Peru report negligible figures for these items, both relative to GDP and in terms of total revenue collected.

These differences, which are also clearly discernible in developed countries, reflect a series of factors that make international comparison difficult and require a global perspective that encompasses different considerations. For example, the vast majority of these instruments are selective taxes levied on consumption or production; that is, they charge differential taxes on specific goods that have a potential environmental impact. As has been shown in the case of tobacco and alcohol, these products are of varying importance in the tax structures of Latin America for reasons intrinsic to the countries themselves. Moreover, accounting for environmental taxes, using the conventional methodology, excludes general taxes such as VAT which, although applied to the same tax bases, are relatively far more important in several of the region's countries.

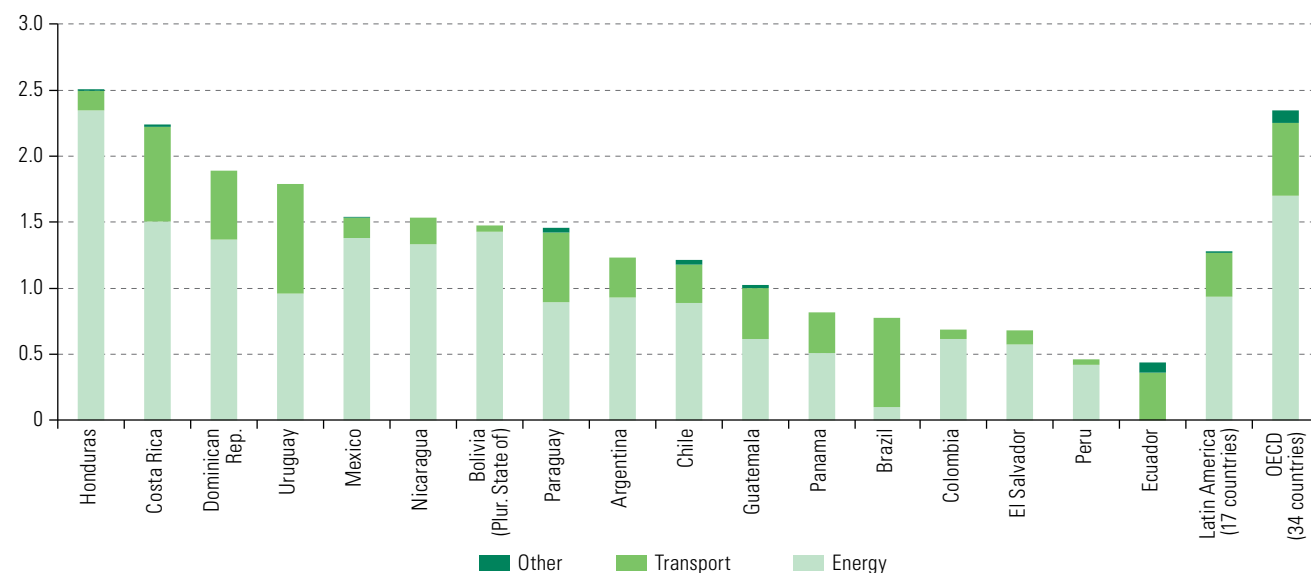
In terms of the type of instruments used, environmental taxes are conventionally divided into three broad categories according to the tax base in question. On this criterion, the first group (energy taxes) includes levies on products associated with energy generation that has polluting effects such as fossil fuels and electricity, in addition to those used in transport, such as gasoline and diesel. On the other hand, the taxation of the second group of instruments (transport taxes) includes the whole range of taxes levied on motor vehicles and other motorized means of transport according to their mode of commercialization (national or imported), their ownership (recurrent taxes), their registration and circulation permit or road use. A third group (other taxes) encompasses a large number of instruments that are less developed and less widely used both in the region and internationally. These include taxes on specific

gaseous substances that have a potential impact on the ozone layer, water extraction and disposal, solid waste management, the extraction of natural resources of mineral origin, pesticide and fertilizer use, among others.

Figure III.3 depicts the structure of environmental taxation in most Latin American countries. In general, and in line with what has also been observed in developed countries, most of these revenues come from taxes on energy products, mainly liquid fossil fuels. The set of taxes on transport are also revenue-significant, although only in a smaller group of countries (particularly Brazil, Costa Rica and Uruguay), while just a few have environmental taxes with more closely defined taxable bases.

Figure III.3

Latin America: structure of taxation related to the environment, 2016
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC).

A common feature of environmental taxation in Latin America is the preponderance of energy taxes and, within that group, taxes on gasoline and diesel, and on motor vehicles. Although they share aspects of the rationale for reforming them with environmental protection objectives, these two forms of taxation deserve to be analysed separately.

First, it should be noted that fuel taxation possibly is the most technically complex in many countries, owing to the following among other factors: (i) the associated sectoral and economic implications; (ii) the multiple objectives that can shape specific tax reforms; (iii) the constraints that each country faces in terms of the physical availability of hydrocarbons and the reliance of many industries on this input; and (iv) the variants used in the design of these taxes to take account of the volatility typical of the international prices of the products in question. In some of the region's countries, differential treatments have even been used within the same tax according to the specific destination (use) of the fuel or the geographical location of production centres within the same country.

It is also a historical fact that fuel prices in Latin America have been held well below international prices. In past decades, the domestic prices of petroleum products were not governed by conventional pricing rules based on marginal or opportunity cost, but instead by political considerations, income distribution goals and the promotion of industrialization. In the region's oil-exporting countries, and even in those that do not export but have State oil companies, this has meant the granting of an implicit subsidy

(for export revenues not received by the central government). This often generates effects that are opposite to those originally pursued and, in most cases, violate environmental objectives, by encouraging excessive fuel consumption. In Latin America particularly, the prevalence of large-scale subsidies for energy products—including fuels—poses a major environmental policy challenge. This contrasts starkly with other countries in the region, such as Argentina and Brazil, where gasoline and diesel prices are currently much higher by regional standards and comparable to their levels in industrialized countries, where the taxes levied on market prices predominate (Fanelli, Jiménez and López Azcúnaga, 2015).

Nonetheless, the idea of using taxes on energy products, and fuel taxes in particular, as public policy tools to correct harmful private practices remains a valid alternative for the countries of the region. The rationale for this is the same as discussed throughout this chapter (see diagram III.1), whereby corrective taxes have the potential to affect the prices of certain goods whose consumption it is desired to discourage, thus fostering a reduction in the quantities demanded and greater general well-being by mitigating the environmental impact of the polluting behaviours.

Unlike other corrective taxes such as those levied on tobacco, a realistic approach to fuel taxes and possibilities for environmentally-oriented reform cannot aim to eliminate their consumption, at least in the short term. Instead, as indicated in the case of alcoholic beverages, it is preferable to focus on achieving a more rational and conscious use of these products, since they constitute fundamental inputs for the economic growth of the countries in question. Moreover, structural changes in a country's energy matrix usually take a long time to bring about. In addition, the economic signals that a corrective tax on fuels sends to the consumers of these products would provide additional incentives for a gradual process of substitution in consumption—in this case, manifested through the incorporation of environmentally cleaner technologies, reinforcing the impact of changes in habits and individual behaviours in the medium and long terms.

Beyond the recognition of a wide diversity of tax systems applied to fuels in the region, largely derived from the multiple considerations discussed above, in this area also selective taxes—even with more sophisticated calculation methods—have the greatest corrective potential. Thus, although for the region generally the design of these instruments and most of their reforms respond to a clear revenue objective, in recent years some countries have introduced innovative changes aimed at taxing polluting fossil fuels more intensively.

For example, in Mexico, a tax on the sale and importation of fossil fuels based on their carbon content was introduced in 2014, alongside the selective tax already levied on gasoline and diesel. The specific rates of this new tax are updated annually in line with a consumer price index. Since 2017, Colombia has applied a national carbon tax on the sale, extraction, importation for own consumption or sale, of fossil fuels, with a specific rate based on the CO₂ emission factor in each case. In Argentina, the design of the selective tax on fossil fuels was reformed in late 2017, and the *ad valorem* system was changed to a specific tax consisting of a component that aims to capture the emission of polluting gases by setting differential rates for each fuel, plus a component per litre of fuel established with the objective of maintaining revenue from the tax. Along the same lines, Peru also made recent adjustments to the design of the selective tax to calibrate its amounts according to the harmfulness of the different fossil fuels.

The introduction or reformulation of these taxes based on the environmental damage estimated for each of the available fuels also helps to resolve a historical feature of their specific design. The fact that the vast majority of countries apply higher rates in selective taxes on gasoline than on diesel may generate incentives that are contrary to those desired; and it reveals a recurrent conflict between policy objectives. From the

environmental standpoint, the preferential treatment of diesel is not justified, since it is a relatively dirtier fuel (with a higher rate of polluting emissions per litre). Moreover, since this type of tax is generally assessed according to the volume of fuel used, an appropriate internalization of the environmental costs associated with this variable should reflect the greater damage caused per litre of diesel consumed (Harding, 2014).

The cases mentioned for Latin America are part of the international trend that seeks to implement “carbon taxes,” which in recent years have been proliferating and consolidating as one of the most efficient ways to explicitly assign a price to carbon, which is held to be chiefly responsible for the phenomenon of global warming. According to a recent study by the World Bank (2018b), there are currently more than 40 countries that have made practical progress in this strategy, either by introducing taxes or through systems of tradable emission permits.

Chile is an exemplary case in Latin America, since, as part of a comprehensive tax reform in 2014, it introduced a tax whose scope and design more closely resembles the pioneering taxes introduced by the Scandinavian countries in the early 1990s. This instrument entered into force in 2017 and started to generate revenue in 2018, since when it has exceeded forecasts. It taxes emissions produced by establishments whose fixed sources, consisting of boilers or turbines, either individually or jointly generate a thermal power of 50 megawatts thermal or more. Those that use unconventional renewable means of power generation with biomass as a primary energy source are expressly excluded. The polluting compounds affected by this tax are: particulate matter, nitrogen oxides and sulphur dioxide (which cause local health damage) and carbon dioxide (which causes global damage due to climate change). The tax currently applied is US\$ 5 for each metric ton of CO₂ emitted.

As is true of any tax that aims to correct harmful behaviour under the conceptual rationale discussed throughout this chapter, an important issue is the sensitivity of demand to changes in the prices of the products whose consumption the tax aims to discourage. Using international evidence on the subject, Galindo and others (2015) report average values for the price elasticity of gasoline demand of -0.10 in the short term and -0.31 in the long term. They attribute these very low figures to structural factors associated with the economic development phase of Latin America, in which relative prices and alternative public transport systems have serious shortcomings. These authors argue that the low elasticities characteristic of gasoline consumption, despite diminishing the corrective power of the tax by requiring significant increases in the rates applied, would still generate a healthy revenue inflow.

A recurrent objection to taxing fuels concerns their potential regressive effect on the income distribution. It is argued that lower-income households spend a relatively larger share of their income on these products, so a tax of this type will be more burdensome for this segment of the population. Nonetheless, the available evidence has shown that the generally regressive impact is quite limited, and its effect on the distribution of income is minimal, and may even become neutral or slightly progressive in low-income countries, especially when current consumption is used as an indicator of well-being (Stern, 2012). As Flues and Thomas (2015) show for developed countries, the distributional effects of energy taxes differ according to the energy source being considered. While taxes on electricity and heating fuels (such as natural gas) tend to be regressive in all cases, taxes levied on transport fuels and motor vehicles are not necessarily so. Moreover, in several cases the latter tend to be progressive enough to counteract the regressiveness of the former.

Accordingly, the distributive impact of a reform of environmental taxation will depend on the combination of tax bases to which the reform applies. It will also depend crucially on how the revenues generated are used. Progressive reform could be achieved, for example, if revenues are used to cut taxes or finance transfer programmes to low-income

households; and it would be even more efficient if distortionary and regressive taxes were reduced or eliminated. For these reasons, distributional issues should not be used to prevent the adoption of tax policies aimed at combating environmental problems, always provided that existing initial conditions are taken into account.

The other major international trend in environmental taxation is the introduction or reform of taxes on transport, particularly the taxation of motor vehicles. Since its initial development at the start of the last century, vehicle taxation has reflected a variety of influences that transcend the obvious need to generate revenues. Geographical, industrial and social considerations have affected the level and structure of these taxes over time. In more recent years, issues related to energy and the environment have led to the taxes being adapted, especially in developed countries.

Motor vehicle taxation, broadly defined, provides a clear example of application of the full spectrum of taxes on goods consumption, particularly in Latin America (Gómez Sabaini and Morán, 2013). In most countries, this type of taxation results from a combination of recurrent taxes (on vehicle ownership or use) and non-recurring or once-only taxes (on direct purchase, import or registration), together with the joint application of ad valorem charges and specific taxes. In the latter case, the tax is usually assessed on non-economic, whether technical (displacement, age, weight), social (transport, medical assistance), commercial (number of axles, number of passengers, load capacity) or, even, environmental criteria (fuel consumption, polluting emissions, presence of a catalytic converter).

Although environmental pollution is usually considered the most common and widely studied externality, the analysis is more complex in the case of automobiles and motorized land transport, since their excessive production and consumption generate multiple externalities that can vary over time and according to geographical location. According to Parry, Walls and Harrington (2007), in addition to local and global air pollution, the main associated external costs include economic dependency on a basic input such as oil, along with congestion and traffic accidents, and potentially, noise pollution and excessive road and highway maintenance costs. Accordingly, any environmental-policy measure applied to motor vehicles should be targeted to best address the multiple externalities that exist in each case. By inducing a reduction in consumption, a tax on fuels could also contribute to the control of environmental pollution and global warming and, at the same time, discourage vehicle use (by implicitly increasing relative operating costs), thereby reducing externalities such as congestion and road accidents.

In developed countries, practical progress has been made in establishing links between vehicle taxation and environmental policies. In recent years, the governments of these countries have been adapting the design of these taxes to take account of issues such as engine fuel efficiency, emissions of CO₂ and other polluting gases, and urban planning and transport policies. At the same time, several (mainly European) countries have been intensifying their efforts in the regulatory area, in collaboration with the manufacturers, to achieve specific improvements in the technology of new motor vehicles, so as to reduce both fuel consumption and the emissions produced per kilometre travelled (OECD, 2018).

Differential taxation of vehicle purchases according to engine fuel efficiency or the level of polluting emissions can give potential buyers an immediate incentive to acquire a less-polluting vehicle. The incorporation of these criteria in recurrent taxes on the use of these products could also generate the correct incentives for consumers, albeit less directly. Setting high taxes on the purchase or registration of motor vehicles could help restrict the number of new vehicles on roads and highways.

Nonetheless, this could also be counterproductive for environmental policy, since consumers might keep older, generally more polluting, vehicles running longer, thereby interrupting the normal replacement of existing units with other technologically more modern and less environmentally harmful ones. That is why tax policy should not only

pursue environmental objectives, but should also seek compatibility with innovation and technological change, provided this reduces the amount of pollution generated. Accordingly, some European countries have implemented programmes with tax exemptions, refunds and discounts to encourage the purchase of new motor vehicles while simultaneously scrapping older ones.

Latin American countries have run a number of useful experiences in terms of motor vehicle taxes aimed at correcting environmentally harmful practices. For example, in late 2011, Ecuador introduced the environmental tax on vehicle pollution (IACV), which taxes the pollution produced by the use of motor vehicles owned by natural persons, with a series of exemptions for the public sector, public passenger transport, taxis and ambulances. The respective tax base depends on the size of the engine (measured in cubic centimetres), applying an adjustment factor defined by the age of the vehicle in years since its manufacture (Almeida, 2016).

Another significant case is Chile where, as part of the 2014 tax reform, a pollutant emission tax was introduced for new vehicles, also known as a green tax on mobile sources, which came into force in 2017. This requires a one-time payment when new motor vehicles (light and medium-sized) are purchased; and its value is calculated from a formula that considers urban performance (kilometres per litre of fuel), the emission of nitrogen oxide from the vehicle (in grams per kilometre), and the final retail price or import value, including VAT or customs duties.

Other countries have made environmentally oriented reforms to pre-existing selective taxes. An example is the Dominican Republic, which in late 2012 introduced a tax on new or used vehicles assessed according to CO₂ emissions per kilometre, which is levied on top of the current tariff of 17% for the issuance of the first license plate or initial registration of a motor vehicle. The tax base is the value declared at customs, on which rates ranging from 0% (up to 120 grams of CO₂ per kilometre) to 3% (more than 380 grams of CO₂ per kilometre) are applied according to the potential emissions of each vehicle, using a table of emission values prepared by the Bureau of Internal Revenue (DGII) for this purpose.

In Peru a reform of the selective consumption tax was also passed very recently, to encourage the use of less polluting vehicles and a gradual renewal of the vehicle fleet, with rates that vary according to the type of fuel used. For new vehicles, gas, electric or hybrid vehicles (both domestic production and imports) were exempted from the payment (previously 10%), while a 10% tax (previously exempt) was established for units that consume gasoline and the rate was raised from 10% to 20% for diesel vehicles. In the case of used vehicles, the rate for gas, electric or hybrid vehicles was lowered from 30% to 10%, while the rate on gasoline and diesel vehicles was increased to 40% of their sale price.

In the case of motor vehicles and the fossil fuels needed to run them, and given the complexity of the phenomena to be addressed, taxes and other fiscal instruments do not provide a complete solution, but need to be integrated into multidimensional public policy strategies to be effective. The multiple additional impacts of possible tax reforms with this corrective approach require a detailed analysis of their nature and a precise estimation of their expected magnitude, given the heavy political economy pressures and constraints to which they are usually subjected (Lorenzo, 2015).

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CHAPTER

IV

Tax expenditures and the Sustainable Development Goals

Introduction

- A. Tax expenditures as a public-policy instrument
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Introduction

The 2030 Agenda for Sustainable Development poses major challenges for Latin American and Caribbean countries. Substantial investments are needed to achieve the Sustainable Development Goals (SDGs), largely owing to the economic and social development disparities that exist between the region's countries and those of the industrialized world. In this context, the Addis Ababa Action Agenda of the Third International Conference on Financing for Development recognizes the importance of strengthening domestic resource mobilization to finance the public policies envisaged in the 2030 Agenda.

Mobilizing domestic resources remains a matter of great importance for the region's countries. Despite the progress made in recent years, the tax burden is still low in most of the region's countries, even when their development level is taken into consideration. Tax Systems generally suffer from a bias towards indirect taxes, low collection rates in the case of direct taxes—especially personal income tax—and high rates of tax evasion and avoidance (ECLAC, 2018).

In addition to these challenges, domestic resource mobilization in the region is constrained by the existence of numerous tax incentives and preferential treatments. These tax expenditures—which are viewed as transfers of public resources through the tax system instead of via direct public expenditure—impose considerable costs on the region. Despite a number of arguments advanced in favour of preferential tax treatments, their use raises concerns about their repercussion on efficiency, equity and transparency.

Nonetheless, it is important to analyse tax expenditures as a tool which, if effectively targeted towards investment, could help achieve the targets set in the SDGs. This requires holistically evaluating the interactions between public spending and tax policies—including the use of preferential tax treatments—to improve the efficiency and efficacy of fiscal action to promote investment and make headway in implementing the 2030 Agenda for Sustainable Development. Comprehensive evaluations of this type are fundamental for rationalizing the use of preferential tax treatments and focusing on those that are most efficient in promoting the investment needed to attain these goals.

An essential step on this path involves identifying the types of incentives and other tax benefits in each country and estimating the fiscal cost of the tax reductions in question. There has been a growing concern among the countries to move towards an official and periodic measurement of these tax breaks and to improve the quantity, quality and periodicity of the published information. Nonetheless, there is still a long way to go in evaluating their impact and effectiveness in attaining the objectives for which they were created, and also in terms of the other costs they generate.

This chapter is organized as follows. Section A briefly contextualizes the subject and analyses the potential benefits and costs associated with tax expenditures. Section B analyses the evolution, magnitude and composition of tax expenditures. Next, section C explores the link between the SDGs and preferential tax treatments. Lastly, section D offers concluding thoughts and makes a number of policy proposals.

A. Tax expenditures as a public-policy instrument

Although the main objective of tax systems is to raise revenue to finance the functions of government, provide public goods and services and finance public social spending, among other actions, governments frequently use the tax structure to promote certain economic-policy objectives. These include encouraging saving and investment, stimulating employment or protecting domestic industry, and promoting or discouraging the consumption of certain goods and services. In cases where deductions are used to pursue these objectives, the tax system plays a role similar to that of public expenditure, as the government forgoes the revenue that would otherwise be obtained from certain taxpayers or activities. This revenue waiver is what is known as “tax expenditure” (Agostini and Jorratt, 2013).¹

The Organization for Economic Cooperation and Development (OECD, 2004) defines a tax expenditure as a transfer of public resources that is achieved by reducing tax obligations with respect to a reference tax framework, rather than by a direct expenditure. The Inter-American Center of Tax Administrations (CIAT, 2011), defines tax expenditures as resources foregone by the State for the existence of benefits and incentives that reduce the tax burden of certain taxpayers in relation to a benchmark tax system, in order to achieve certain economic- and social-policy objectives. In short, a tax expenditure exists when there is a deviation from a general provision, a revenue loss is generated, certain taxpayers benefit, and specific policy objectives are pursued.

As shown in table IV.1, tax expenditures can take different forms, ranging from exemptions, deductions, credits and reduced rates, to tax deferrals and accelerated depreciation systems.² This variety of formats gives policy-makers considerable room for manoeuvre in formulating public policies that involve a tax expenditure. Nonetheless the impact of these instruments varies, which implies different revenue losses and different changes in the beneficiaries’ behaviour.

Table IV.1
Typology of tax
expenditures

Type of tax expenditure	Description	Examples
Exemptions	Amounts that are excluded from the tax base	Exemption for educational services (value-added tax–VAT); exemption for income received by civil associations, cooperatives or non-profit entities (corporate income tax–CIT)
Deduction	Amounts that can be reduced or deducted from the tax base	Deduction of certain expenses and charitable donations from the calculation of the personal income tax (PIT) or CIT tax base
Credit	Amounts that are deducted from the payment of taxes or make it possible to reduce them	CIT credit for investment in capital goods
Reduced rates	Lower rate applicable to certain taxable transactions or taxpayers	Zero rating of products included in the basic shopping basket (VAT)
Deferral	Postponement of tax payment	Accelerated depreciation for fixed capital investments (CIT)

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Budget Office of Chile (DIPRES), “Medición y evaluación del gasto tributario”, 2012 [online] <http://www.dipres.gob.cl/598/w3-article-94691.html>.

Not all tax expenditures are tax incentives, since some may simply be tax benefits. Villela (2006) notes that while every incentive implies a benefit, not every benefit constitutes an incentive, although both result in revenue losses. Whereas an incentive

¹ The term “tax expenditure” was first coined by Stanley Surrey, who, as Assistant Secretary for Fiscal Policy of the United States Department of the Treasury in 1967, compiled a list of income tax preferences and concessions, in form of a spending programme, emphasizing that they should also be subject to budgetary control processes (see Jiménez and Podestá, 2009).

² In the case of tax incentives for investment, it is common for developing countries to use temporary tax exemptions known as “tax holidays”.

aims to change economic agents' behaviour, a benefit does not, since it is merely a form of financial support to taxpayers (such as deductions of personal expenses from the income-tax assessment).

Aside from the intrinsic value of the objectives being pursued, tax expenditures have certain advantages and disadvantages as do all public policy instruments. Although there is no consensus in the specialized literature, any analysis of the use of a tax expenditure should evaluate the following three key points at least: whether the tax expenditures result in a more efficient allocation of resources; what repercussions tax expenditures have on the horizontal and vertical equity of the tax system; and whether there is transparency and the tax breaks in question are included in the budget process.

First, do tax expenditures generate a more efficient allocation of resources? One justification for State intervention, whether through tax expenditures, taxes, direct spending or some other public policy tool, is the need to correct the allocation of resources in the face of a market failure, such as externalities, information asymmetries and economies of scale, among others. Under this assumption, applying the tax expenditure would result in a Pareto improvement, helping the economy to approach its optimal resource allocation, which would entail a net benefit for society. Moreover, an argument usually made in favour of tax expenditures compared to a policy of direct public spending is that in the former, the private sector can allocate resources optimally by responding to market signals.

Thus, a preferential tax treatment can be justified on the grounds that the tax expenditure would make the most of positive externalities or minimize the effects of negative ones. For example, corporate income tax deductions and credits for investments in research and development (R&D), or tax incentives that seek to shift the production matrix towards low-carbon green processes, can generate benefits not only within the firm in question (microeconomic effect) but also for the economy as a whole (macroeconomic effect).

Nonetheless, the existence of multiple market failures casts doubt on the argument that State intervention through tax incentives policy (or any other instrument) would achieve a more efficient allocation of resources; for when there are several distortions, it is impossible to be sure that eliminating one of them would result in a welfare improvement. Monopolistic or oligopolistic markets often produce inefficient results, while information asymmetries and incomplete information hinder the ability of economic agents to make utility-maximizing decisions. In this context it is possible, even highly probable, that preferential treatment results in an inefficient allocation of resources and therefore generates a net benefit that is either neutral at best, or else negative for society, depending on the associated cost.

Accordingly, when evaluating the efficiency and efficacy of a tax expenditure the objective being pursued needs to be clearly stated, along with the impact indicators and the fiscal cost associated with the preferential tax treatment in question. In particular, policymakers need to weigh the advantages and disadvantages of using a tax expenditure rather than direct public spending. Depending on the objective, the latter tool may be a more efficient way to allocate resources. Unfortunately, this type of analysis is not very common in Latin America and the Caribbean. Studies that include a cost-benefit analysis in the region's countries are few and far between; and those that exist focus generally on quantifying the revenue loss or tax expenditure in question.³

³ The few studies that assess the costs and benefits of tax incentives for countries in the region include: Jorratt (2010) which evaluates three tax incentives in Ecuador; World Bank (2012) which makes a comprehensive evaluation of three tax expenditures in Colombia; Agostini and Jorratt (2013) that includes a cost-benefit analysis for two investment incentives in force in Chile; and United Nations/CIAT (2018) which performs a cost-benefit analysis of the tax incentives granted to the tourism industry in the Dominican Republic.

Secondly, what effect do tax expenditures have on equity and fairness of use? In some cases, these preferential tax treatments are justified as a way of making the tax system more progressive. Tax expenditures may seek to reduce the negative effects of a tax on a group of lower-income taxpayers, although this is not always the most efficient way to achieve that objective. This is seen frequently in the case of VAT, where an exemption or a zero rate is applied to products included in the basic shopping basket to support lower-income households (since they spend a larger share of their total income on these products than on others).⁴

In practice, however, tax expenditures tend to have negative repercussions for horizontal and vertical equity. In the first case, since tax expenditures favour certain sectors or activities, similar taxpayers can find themselves facing different tax burdens. For example, firms covered by a free-zone regime are subject to lower taxation than those in the general regime. Differentiated tax treatment among similar taxpayers can also lead to perverse results, creating situations in which the tax burden faced by a subsidiary of a multinational company is less than that of a domestic firm, so the competitiveness of the domestic industry is undermined.

Preferential treatments can also reduce progressiveness and vertical equity, especially when they affect progressive taxes that have a major redistributive impact, such as personal income tax or property taxes. A very common example in the region is the favourable treatment given to capital income, with reduced tax rates on income obtained from dividends and other financial instruments. As this type of income is concentrated in the highest deciles of the income distribution, the tax expenditure reduces the effective average rate of personal income tax, thereby making it less progressive.

Another key factor concerns the idea that tax expenditure is fair when its objective is to make the tax system more progressive. In theory, the vast majority of taxpayers can avail themselves of exemptions, deductions and credits that seek to promote the consumption of specific goods and services or encourage saving and investment. In practice, however, not everyone can necessarily obtain these benefits.

Third, how can the use of a tax expenditure be made transparent and included in the budget process? Although preferential tax treatments may have certain advantages over other public-policy instruments, the associated costs and their advantages and disadvantages are essentially invisible, both for policy makers and for society at large (Burman and Phaup, 2011). As these policies are usually not subject to the same monitoring and evaluation mechanisms as applied to direct expenditures (they are not included in the budget, and they tend to be renewed automatically each year), they reduce fiscal policy transparency and accountability; and they also make it more difficult to target certain beneficiaries than in the case of spending policies or direct subsidies.

In this context, including tax expenditures in the general state budget would increase their control and accountability (Villela, Lemgruber and Jorratt, 2010). A further step would be to fully integrate them into the budgetary process, by classifying tax expenditures as public spending, to maximize the efficiency and effectiveness of allocating resources to the different government functions (Swift, 2006). Both cases require a considerable effort in quantifying tax expenditures and their beneficiaries in order to achieve greater transparency among the different public-policy instruments.

⁴ For example, an evaluation performed by the World Bank (2012) for the case of VAT exemptions and exclusions in Colombia, found that this tool is not cost-effective in reducing poverty and improving the income distribution. While it does manage to reduce the Gini coefficient, it does so at a high fiscal cost, because it is an instrument with weak targeting (it benefits both the poorest households and those with high incomes). The study reaches the conclusion that it is preferable to partially repeal these tax expenditures and allocate the resources in question to targeted spending programmes.

Another facet of transparency that needs to be evaluated is whether taxpayers know that a tax benefit exists and, if so, how to take advantage of it to calculate their tax liability. In this case, the lack of transparency of tax expenditures could have perverse effects, such that the objectives of a policy—for example, stimulating investment in education targeting certain population groups—do not materialize because the taxpayers are unaware of the benefit and do not take advantage of it. In contrast, taxpayers who have tax advisors could capture most of the benefit.

Similarly, the opacity that tends to surround tax expenditures hinders their social evaluation, especially when voters or taxpayers are unclear about the fiscal cost of a preferential tax treatment included in a specific tax reduction policy. In this case, they may end up approving a measure that acts against their economic and social interests (Burton and Sadiq, 2013).

Tax expenditures probably also provide opportunities for tax evasion and avoidance, given the ability of taxpayers who can hire tax advisory services to manipulate the tax system and find ways to exploit tax arbitrage. At the same time, the additional complexity of the tax structure resulting from the application of tax expenditures would make it difficult for the tax authorities to monitor taxpayers, thereby generating opportunities for tax avoidance (Slemrod, 1989).

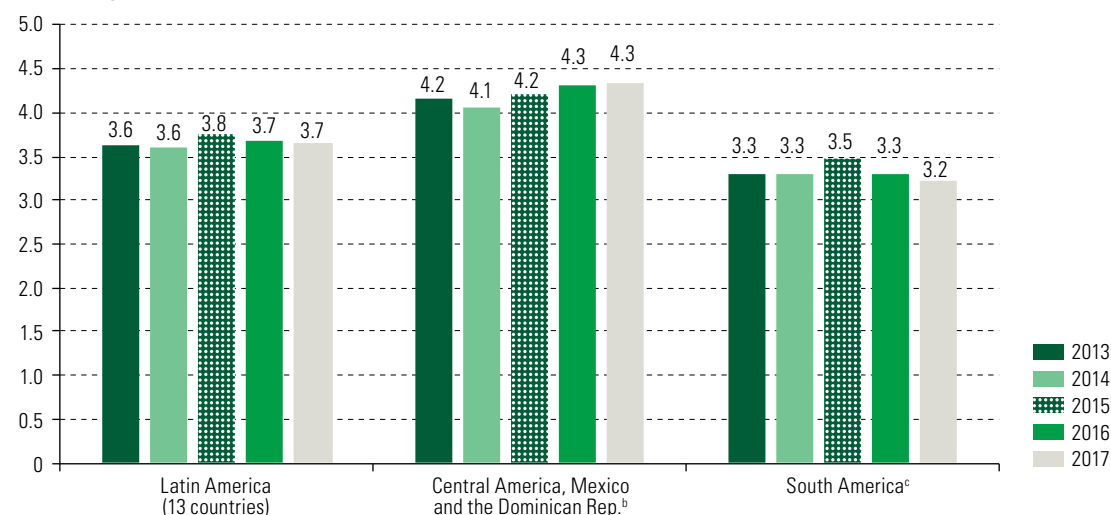
B. Evolution, magnitude and composition of tax expenditure

Tax expenditures have evolved unevenly in the region, reflecting the diversity of taxation frameworks, as well as public policies related to key issues such as social welfare and investment incentives. As shown in figure IV.1, the average for 13 Latin American countries remained relatively stable between 2013 and 2017, at 3.7% of GDP.⁵ However, the group comprising Central America, Mexico and the Dominican Republic saw tax expenditure increase over that period, from 4.1% of GDP in 2014 to 4.3% in 2017. Conversely, these expenditures in the countries of South America showed no major changes in the average figure over this period.

However, underpinning the evolution observed in the aggregates is a significant degree of heterogeneity within each group (see figure IV.2). This is seen most clearly in the group comprising Central America, Mexico and the Dominican Republic, where the rise in the average tax expenditure between 2015 and 2017 reflects increases in Costa Rica (from 4.9% of GDP in 2015 to 5.5% in 2017) and Mexico (from 2.9% of GDP in 2015 to 3.9% in 2017). In the case of Costa Rica, this is due to greater forgone revenues owing to the waiver of tax generated in free zones. The rise in Mexico is due partly to fiscal stimulus measures linked to the special tax on production and services (IEPS) applicable to motor vehicle fuels. By contrast, the decreases seen in Guatemala and the Dominican Republic were too small to offset the overall upward trend in this group. Figure IV.2 shows relative stability in tax expenditures in South America, where most countries saw no changes over the years covered. Chile is an interesting case, however, inasmuch as fiscal expenditure has declined in recent years, mainly owing to smaller expenditures related to the personal income tax.

⁵ Jiménez and Podestá (2009) warn that data on tax expenditures involve numerous conceptual complications that do not occur in the case of data on direct fiscal expenditures, with which they are in principle being compared. The discussion on the best standard structure for a tax, the different items included and the methodologies used, as well as the interaction between the various measurements, suggests that tax expenditure data should be considered within a given context and generally accepted assumptions with respect to tax policy. However, for illustrative purposes, in this section tax expenditures are grouped to present the general trends of tax expenditures in Latin America.

Figure IV.1
Latin America (13 countries): evolution of tax expenditures, 2013–2017^a
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

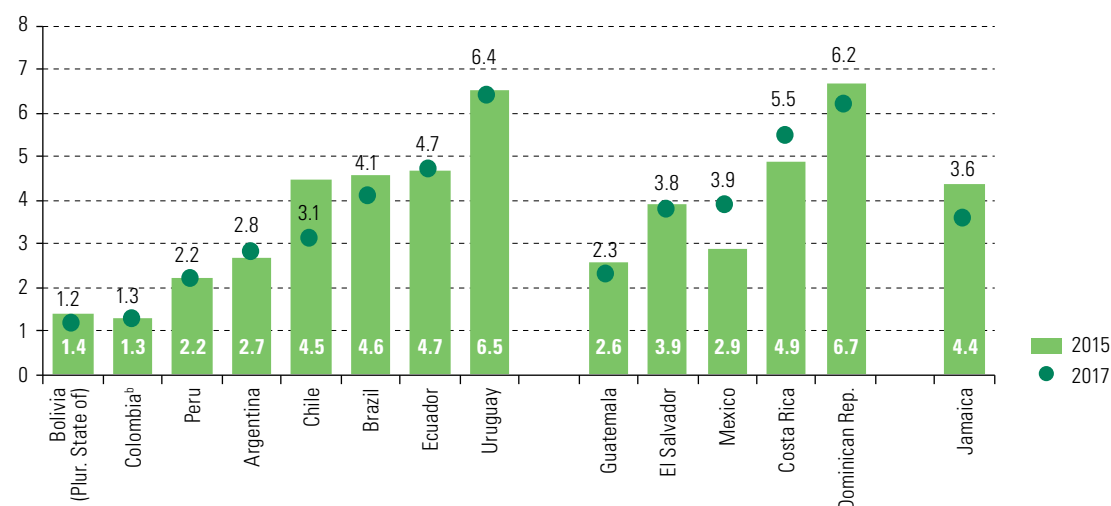
Note: Simple averages.

^a Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Peru, Plurinational State of Bolivia, and Uruguay.

^b Costa Rica, Dominican Republic, El Salvador, Guatemala and Mexico.

^c Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Plurinational State of Bolivia and Uruguay.

Figure IV.2
Latin America and the Caribbean (14 countries): tax expenditures, 2015 and 2017^a
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a The figures for El Salvador, Jamaica and the Plurinational State of Bolivia refer to 2015 and 2016.

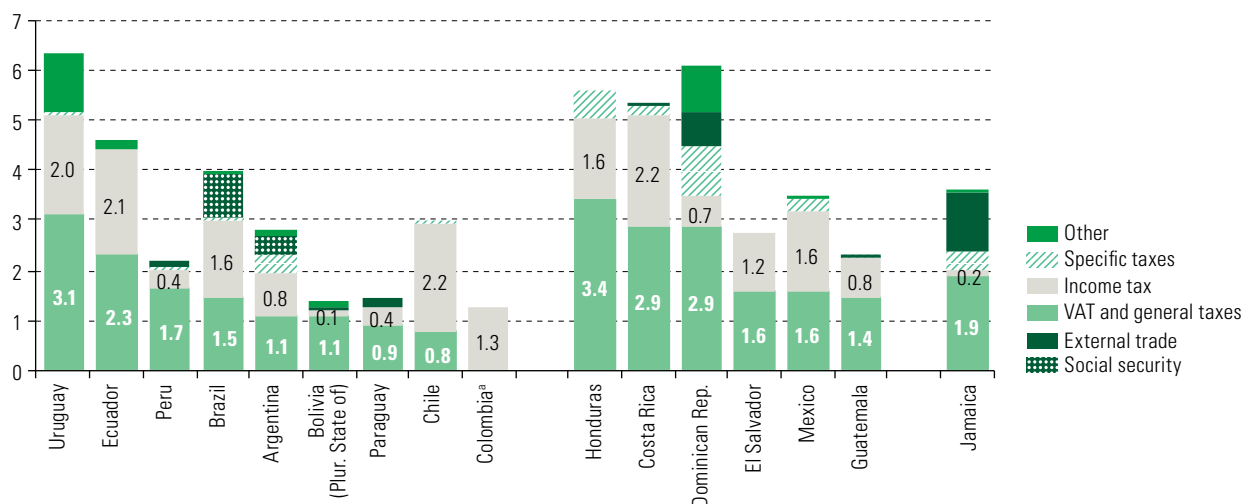
^b Does not include VAT-related tax expenditure. This item is overestimated because it includes exemptions that do not generate revenue loss, since the particularities of tax legislation do not allow VAT in certain cases. Including only those goods and services on which VAT may be levied, tax expenditure on this tax falls to half the amount shown.

Figure IV.2 also reveals the widely ranging magnitude of the costs associated with preferential tax treatments. At one extreme, in the Plurinational State of Bolivia and Colombia tax expenditures cost less than 2.0 percentage points of GDP. At the other, forgone tax revenue is very significant in Brazil (at 4.1% of GDP in 2017), Costa Rica (5.5% of GDP), Ecuador (4.7%), the Dominican Republic (6.2%) and Uruguay (6.4%). Jamaica's tax expenditures stood at 3.6% of GDP in 2016, in line with the average for the Latin American countries.

With regard to the structure of tax expenditures by specific tax, figure IV.3 clearly shows the predominance of preferential treatment for value added tax (VAT). Forgone VAT revenue exceeds 2 GDP points in five countries —Costa Rica, the Dominican Republic, Ecuador, Honduras and Uruguay— and tops 1 GDP point in another eight countries. By contrast, in Chile and Paraguay, resources forgone owing to preferential VAT treatment represent between 0.8% and 0.9% of GDP.

Figure IV.3

Latin America and the Caribbean (16 countries): composition of tax expenditures, around 2018
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a Does not include tax expenditure associated with VAT. This item is overestimated because it includes exemptions that do not generate revenue loss, since the particularities of tax legislation do not allow VAT in certain cases. Including only those goods and services on which VAT may be levied, tax expenditure on this tax falls to half the amount shown.

It is also useful to consider the main transactions benefiting from preferential treatment for the countries in which VAT-related tax expenditure exceeds 2 GDP points. First, it is apparent that deductions, exemptions and reduced rates for the basic basket of goods make up the largest amount of forgone VAT revenue; Costa Rica stands out, as VAT relief for these goods accounts for 89.6% of its total VAT-related tax expenditure. Second, large tax expenditures are evident for education and health, particularly in Ecuador and Uruguay. While preferential treatment for the consumption of these goods and services may appear to be justified for reasons of equity, the reality of its impact is more complicated and requires detailed assessment (see box IV.1).

The magnitude of income-tax-related forgone revenue is also significant in the region. In Chile, Costa Rica, Ecuador and Uruguay, these tax expenditures represent over 2 percentage points of GDP. These countries are followed by a group comprising Brazil, Colombia, El Salvador, Honduras and Mexico, whose income tax relief expenditures top one percentage point of GDP. Lastly, tax expenditures associated with income tax in the Jamaica, Paraguay, Peru and the Plurinational State of Bolivia are minimal.

Box IV.1

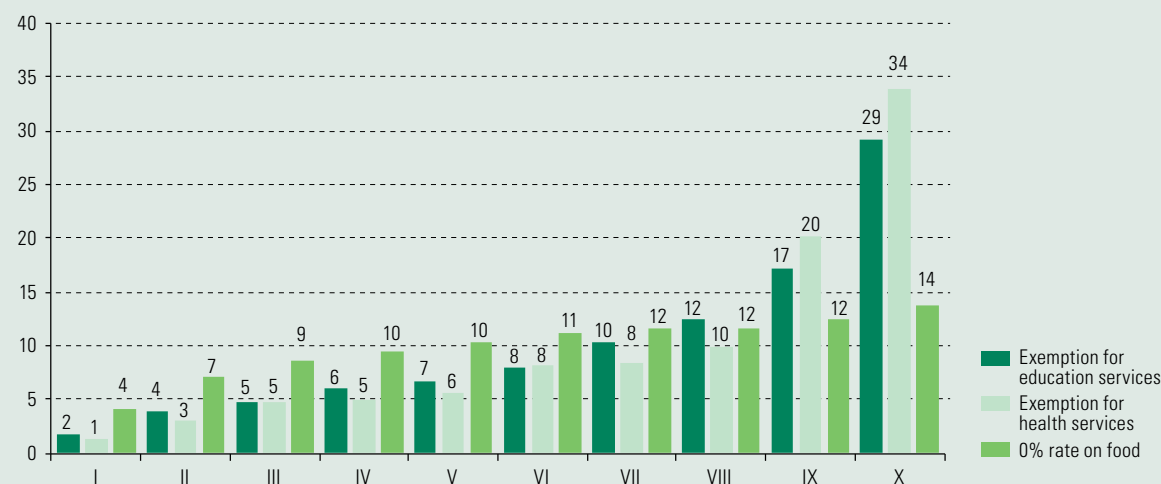
Impact of special treatment for VAT on education and health expenditures in Mexico

As noted earlier, several factors must be considered when assessing a tax expenditure. One is its impact on equity and well-being, given that preferential treatment of a particular item will not necessarily affect all the population in the same way. VAT-related tax expenditures associated with the consumption of education and health services, for example, show signs of being concentrated in a specific group of society.

Estimates by Secretariat of Finance and Public Credit of Mexico show that tax expenditure for education and health is highly concentrated in the upper deciles of the income distribution. As shown in the figure below, 29% of tax expenditure for educational services accrues to the highest income decile. This decile also accounts for 34% of the exemption for the use of health services. Although the amounts involved in exemptions for education and health services are relatively small (equivalent to 0.13% and 0.01% of GDP, respectively), the respective benefits of this preferential treatment are concentrated in the top decile of the income distribution.

Mexico: distribution of VAT-related tax expenditures for consumption of education, health services and food, by income decile, 2018

(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Secretariat of Finance and Public Credit, “Presupuesto de Gastos Fiscales 2018”, Mexico City, 2018.

These estimates also show a more equal distribution of the benefit associated with zero rate applied to food consumption, although the highest income decile nevertheless captures 14% of this benefit. As the figure shows, the proportion of this tax expenditure going to each of the other deciles—except the lowest ones—is around 10% of the total. Notably, the two lowest income deciles have the smallest share in this benefit (4% and 7%, respectively).

These findings illustrate the difficulties of assessing the impact of tax expenditures on equity and well-being. It is important to analyse the purposes for which tax expenditures were created and how well they fit the aims of broader public policy. As detailed above, a comprehensive analysis will require countries to take measures such as the creation of tax expenditure budgets with built-in impact assessment in order to establish whether tax expenditures are the most efficient routes towards public policy objectives.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

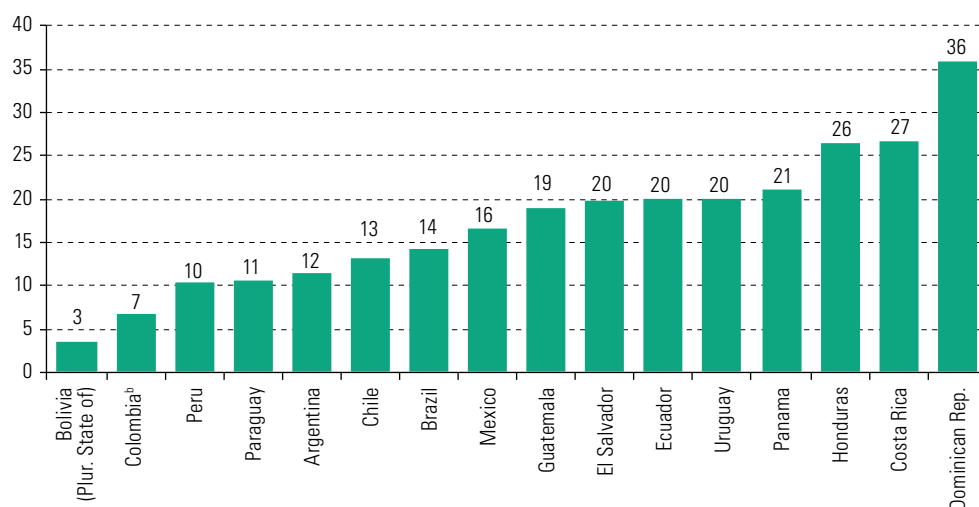
Contrasting with the case of VAT, income-tax-related benefits in the economies where these exceed 2 GDP points are very specific to individual countries. In Chile, most tax expenditures associated with income tax relate to preferential treatment for retained business earnings and the investment income of pension funds. In Costa Rica, the largest items are certain tax-exempt activities in free zones, as well as some tax benefits for natural persons (exemption of bonuses or thirteenth salaries, retained interest and capital gains). In Uruguay, income-tax-related relief largely consists of the exemption from corporate income tax of activities in free zones, as well as the exemption of interest accrued in retirement savings accounts.

Overall, tax expenditures relating to personal income tax have significant impacts on equity in the region. On the one hand, a significant number of deductions and credits are intended to reduce the tax burden on income from pensions, social security benefits and income associated with other benefits such as wage bonuses; all elements of personal income that are usually associated with social aims. On the other hand, the widespread informality of the region's economies and the fact that the vast majority of the population is not liable for personal income tax mean that this benefit is concentrated in a small group of workers. In this context, it is not easy to predict the effectiveness or efficiency of tax expenditure, making it all the more important to conduct assessments over the overall impact of the effort in this area.

As noted earlier, tax expenditures may be understood as a spending policy executed through the tax system outside the regular budget process (Swift, 2006; Villela, Lemgruber and Jorratt, 2009). From this perspective, it is interesting to examine the amount of the forgone revenue in relation to the budgetary expenditures of the countries. Notwithstanding issues of comparability between countries, the data presented in figure IV.4 show that tax expenditures represent a fourth or more of budgetary expenditure in Costa Rica, the Dominican Republic and Honduras. If tax expenditures are viewed as part of public spending policy, a significant portion of this expenditure thus escapes the regular monitoring and evaluation of efficiency and effectiveness that is usually required of budgeted public expenditure.

Figure IV.4

Latin America (16 countries): tax expenditures as a proportion of central government budgetary expenditures, 2017^a (Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Note: The figures for Peru and the Plurinational State of Bolivia correspond to the general government and those for Mexico correspond to the federal public sector.

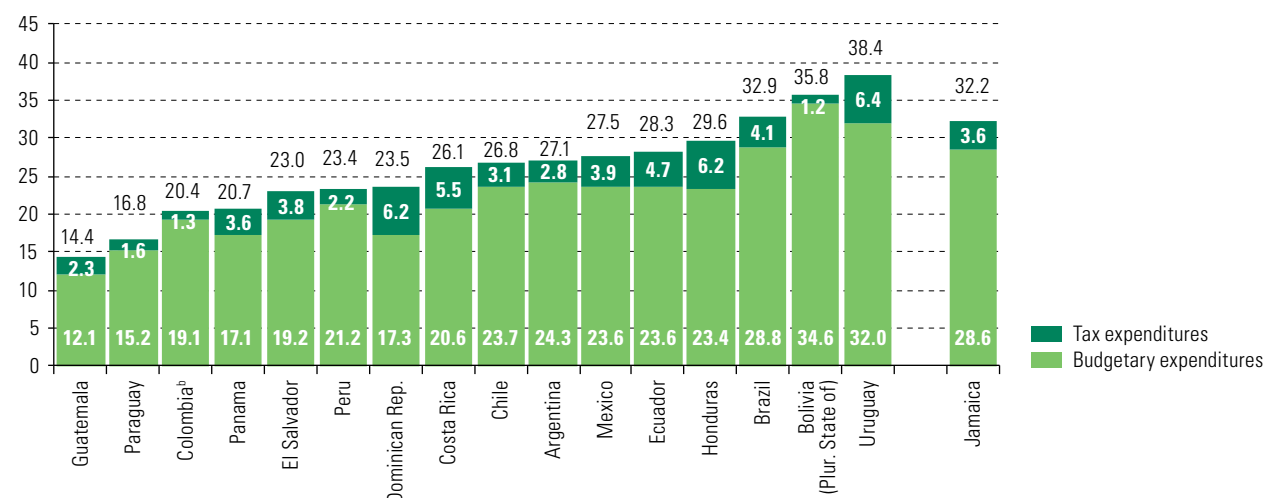
^a The figures for El Salvador, Panama and the Plurinational State of Bolivia refer to 2016.

^b Does not include VAT-related tax expenditure. This item is overestimated because it includes exemptions that do not generate revenue loss, since the particularities of tax legislation do not allow VAT in certain cases. Including only those goods and services on which VAT may be levied, tax expenditure on this tax falls to half the amount shown.

If tax expenditures are viewed as an additional spending effort by the public sector, total expenditure would therefore exceed the amounts usually employed to analyse the region's public expenditure. On average, the total effort would be 17% higher than total budgetary expenditure. What is interesting is that, notwithstanding the methodological difficulties, this implies a change not only in the level of total expenditure, but in the ranking of countries by magnitude of the public spending effort. In this regard, Brazil, Costa Rica, the Dominican Republic, Ecuador, Honduras, Jamaica and Uruguay stand out when their respective tax expenditures are included (see figure IV.5).

Figure IV.5

Latin America (17 countries): tax expenditures and central government budgetary expenditures, 2017^a
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Note: The figures for Peru and the Plurinational State of Bolivia correspond to the general government and those for Mexico correspond to the federal public sector.

^a The figures for El Salvador, Jamaica, Panama and the Plurinational State of Bolivia refer to 2016.

^b Does not include VAT-related tax expenditure. This item is overestimated because it includes exemptions that do not generate revenue loss, since the particularities of tax legislation do not allow VAT in certain cases. Including only those goods and services on which VAT may be levied, tax expenditure on this tax falls to half the amount shown.

C. Tax expenditures and the Sustainable Development Goals

Tax expenditures aimed at promoting investment could serve as a tool to fulfil the SDGs. Table IV.2 establishes links between specific SDGs and various tax benefits or incentives offered by the countries of the region that could be realigned to promote each goal. This does not mean that the instrument in question is efficient in achieving the goal in question or that there are no alternative instruments that can do so more effectively. Cost-benefit evaluations would need to judge this. Moreover, the contribution of tax policy to achieving the SDGs must be evaluated comprehensively, considering revenue and public spending policies, along with the tax incentives themselves.

Some countries offer preferential tax treatments aimed at narrowing gender gaps (SDG 5). For example, the Brazilian Citizen Enterprise Programme grants an income-tax credit for the total remuneration paid to male or female employees during the 60-day maternity-leave extension or the 15-days extension allowed for paternity leave. In Colombia there is a tax credit in respect of payroll contributions for firms that hire workers in certain categories, including women over 40 years of age who have not been legally contracted in the previous fiscal year.

Table IV.2

Tax expenditures and their relationship with the Sustainable Development Goals

SDG	Examples of benefit policies or tax incentives
	Incentives for women's labour market participation and economic recognition for care work. Examples include Brazil (corporate income tax credit in respect of the pay of employees who take extended maternity/paternity leave) and Colombia (tax credit for social-security contributions if unemployed women aged over 40 are hired).
	Incentives that reduce the cost of investment in renewable-energy generation (accelerated depreciation, deductions or tax credits) or promote their use (Argentina, Chile, Colombia, Ecuador, Mexico, Panama, Peru, Dominican Republic and Uruguay), ^a or both.
	Employment incentives: credits for social-security contributions or additional CIT deductions for hiring certain categories of worker, such as older adults, persons with disabilities, young people, workers in certain areas or sectors, among others (Argentina, Colombia, Ecuador, El Salvador, Mexico, Panama, Uruguay) Increased credits or deductions for worker training expenses (Brazil, Costa Rica, Ecuador and Uruguay) Investment incentives: credits or deductions for investment in machinery, equipment and other capital goods (Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Mexico, Panama, and Uruguay); and accelerated depreciation of assets (Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Nicaragua, Panama, Peru and Uruguay) Incentives for micro-, small and medium-sized enterprises (Argentina, Chile, Colombia, Ecuador, Mexico, Uruguay)
	CIT credits or deductions for expenses on R&D or technological innovation (Brazil, Chile, Colombia, Ecuador, Mexico, Peru and Uruguay) Tax incentives for investment in technological projects such as biotechnologies, software development or information and communication technologies (ICTs), among others (Argentina, Brazil, Ecuador, Panama, Paraguay and Uruguay) Deductions or credits for investment in public infrastructure (Panama and Peru)
	Revision and rationalization of tax expenditures in respect of personal income tax and property taxes
	Incentives for electric vehicles (Mexico, Paraguay and Uruguay) Incentives to provide facilities for people with disabilities (Mexico)
	Deductions or credits for investments in clean production (Colombia, Ecuador and Uruguay) Incentives for forest plantations (Argentina, Chile, Colombia, Ecuador, Nicaragua, Panama and Uruguay) Gradual elimination of tax incentives for fossil fuels
	Incentives to move towards low-carbon alternatives, such as electric vehicles, LED lighting, solar panels, among others (Chile, Mexico, Paraguay and Uruguay) Tax incentives for the adoption of clean technologies (Colombia, Ecuador, Uruguay)
	Better tax-incentive governance and accountability: improvement of transparency by publishing details of tax expenditures during the annual budget process; periodic reviews based on cost-benefit evaluations; incorporation of incentives into the legislative process, especially in tax laws
	Greater mobilization of domestic resources by eliminating tax incentives that are not cost-effective (avoid the use of tax holidays and other exemptions) Regional coordination to mitigate international tax competition Establishment of common standards between countries for the estimation and presentation of tax expenditure reports and their evaluation

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of legislation of the countries; IMF (International Monetary Fund) and others, "Options for low income countries' effective and efficient use of tax incentives for investment", 2015 [online] <https://www.imf.org/external/np/g20/pdf/101515.pdf>; and Green Fiscal Policy Network, "Fiscal Policies and the SDGs", 2016 [online] <http://www.greenfiscalfpolicy.org/wp-content/uploads/2016/05/Fiscal-Policies-and-the-SDGs-Briefing-note.pdf>.

^a The other countries also offer incentives for the generation or use of renewable energies but in the form of reduced rates, exemptions or tax holidays (Brazil, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay and the Plurinational State of Bolivia).

In addition, several of the region's countries offer tax incentives to promote employment and training for workers. These should be evaluated to determine whether they are cost-effective in terms of creating decent jobs (SDG 8). In this connection, a cost-benefit evaluation of the deduction's capacity to generate a net increase in employment in Ecuador (Jorratt, 2010)⁶ found that the incentive is not clearly cost-effective, and recommends its replacement with appropriate labour force training.

Other tax incentives are intended to stimulate investment and economic growth and are potentially aligned with SDG 8. Nonetheless, empirical studies⁷ available for countries in Latin America and the Caribbean and other developing countries show that tax incentives have generally had a limited influence on corporate investment decisions. More significant are other elements related to political and economic stability, legal security, the availability of skilled labour, institutional quality, the level of infrastructure and trade openness, among others.

Moreover, not all special tax treatments are equally effective in encouraging investment. For example, many low-income countries resort to costly tax holidays and income-tax exemptions to attract investment, when tax credits for investments and accelerated depreciation generate more investment per dollar spent (IMF and others, 2015). Eight of the region's countries offer some type of tax credit or additional deduction for investment in machinery, equipment and other capital goods, while several have accelerated depreciation regimes, although these are generally available for certain sectors that are being promoted.

The 2030 Agenda emphasizes investment in infrastructure and the promotion of investment in scientific research and innovation as an important way to facilitate sustainable development (Goal 9 is to "build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation"). As shown in table IV.2, several countries offer tax relief through income-tax credits or deductions that are linked to expenses in R&D or technological innovation, as well as specific incentives for areas related to biotechnology, software development, ICTs and investment in public infrastructure.

Nonetheless, investment and economic growth are not sufficient to achieve the SDGs, since growth needs to be inclusive and stimulate the economy without harming the environment. In other words, the three dimensions of sustainable development—economic, social and environmental—must all be considered. On the social front, the revision and rationalization of tax expenditures in personal income tax and in property taxes can enhance the redistributive progressiveness and impact of taxes and thus help reduce inequalities (SDG 10).

In the environmental dimension, the tax-incentive policies of nine of the region's countries include instruments that reduce the cost of investment in renewable energy generation and promote its use (actions related to SDG 7); some also offer incentives for the use of electric vehicles in order to improve air quality in the cities (which contributes towards SDG 11); or encourage the consumption of other goods and services with low carbon emissions (such as LED lighting devices, solar panels, and so forth). Incentives are also granted for forest plantations and for the adoption of clean technologies (actions related to SDGs 12 and 13). For example, in Colombia, firms that make investments in environmental control, conservation and improvement can deduct 25% of the investments made from income tax. In Ecuador, a double deduction is allowed for

⁶ Article 10 (9) of the Organic Law of the Domestic Tax Regime (LORTI) provides that, in the event of a net increase in employment resulting from the direct hiring of workers, the income-tax deduction in respect of said workers' wages and social benefits, on which contributions are paid to the Ecuadorian Social Security Institute, shall be increased by 100% in the fiscal year in which the new hirings occur, provided that the new workers remain directly employed for at least six consecutive months during the respective fiscal year.

⁷ Studies that cover Latin American and Caribbean countries include Klemm and Van Parys (2009), Agostini and Jalile (2009), ICEFI (2007), Artana (2015) and Van Parys and James (2011).

the depreciation of machinery, equipment and technologies for the implementation of clean production mechanisms, of energy generation from renewable sources, reduction of the environmental impact of production activity, and reduction of greenhouse gas emissions. In Uruguay, promoted investment projects that use clean technologies can obtain a larger IRAE credit. The countries of the region must also take steps to reduce and gradually eliminate tax expenditures that are harmful to the environment, such as tax incentives for the production and consumption of fossil fuels, and other measures that promote unsustainable use of natural resources.

The effectiveness of the tax-incentives policy in achieving the proposed objectives largely depends on good governance in its design, implementation and management, where transparency and accountability issues are particularly important. The publication and discussion of detailed reports on tax expenditures during the annual budgetary process, together with cost-benefit evaluations and the inclusion of incentives in the legislative process, can help promote fair, peaceful and inclusive societies (aligned with SDG 16).

Based on cost-benefit evaluations, the use of preferential tax treatments could also be reviewed and rationalized, promoting those that are most efficient in achieving this ambitious Agenda, and gradually reducing or eliminating the others. The elimination of tax incentives that are not cost-effective would make it possible to mobilize additional domestic resources, which would be reinforced by greater regional tax cooperation that avoids international tax competition (actions related to SDG 17).

In short, although there is a wide range of incentives that are aligned with the SDGs, it is crucial that they be evaluated comprehensively, to determine whether the benefits attributable to a given tax incentive outweigh its costs. In the case of benefits, only those that are really attributable to the incentive in question should be considered, such as the additional revenue obtained as a result of increased production or consumption in response to the incentive, and the economic and social benefits that it generates. The costs of the incentives should include the loss of revenue from investments or actions that would have taken place anyway without the incentives, higher compliance and tax administration costs, the possible abuse of the incentive that generates an increase in evasion, economic distortions, distributional effects and macroeconomic variables, among others. Moreover, this evaluation should be performed comprehensively and consider the other fiscal policy instruments that could contribute efficiently to attaining the Goals as well as the interactions between them.

Lastly, it is important to note that the main link between the tax system and the SDGs is the collection of tax revenues; and the rationalization of tax expenditures is an important tool for strengthening this. The availability of additional domestic resources is crucial for financing the actions needed to achieve sustained development that is both inclusive and in harmony with the environment.

D. Conclusions and challenges

The 2030 Agenda for Sustainable Development projects a transformative vision for economic, social and environmental sustainability. It represents a historic opportunity for Latin America and the Caribbean, by including issues of high priority for the region, such as the eradication of extreme poverty, reduction of inequality in all its dimensions, inclusive economic growth with decent work for all, sustainable cities and climate change, among others (United Nations, 2018).

This Agenda requires an active investment policy to achieve the agreed-upon targets. The existence of multiple policy objectives and limited resources therefore makes it necessary for countries to periodically evaluate the equity, efficiency and efficacy of their fiscal action. This requires making a holistic assessment of the interaction between the different public-policy instruments in order to promote investment for sustainable and inclusive growth.

Targeting tax expenditures towards investment could contribute to achieving the SDGs. Nonetheless, the use of this tool should be evaluated through cost-benefit analysis and consider its interaction with tax policies and public-expenditure programmes. These evaluations could determine whether introducing or maintaining these preferential tax treatments is justified, or it would be better to replace them with other more efficient and effective measures. This is fundamental, since the main link between domestic-resource mobilization and the SDGs is the tax revenue required to finance the public expenditure needed to achieve this vision of sustainable development that is both inclusive and in harmony with the environment.

There are also elements outside the tax system that condition the effectiveness of tax policy in attaining the proposed targets, including institutional quality and economic, political and social stability. As mentioned several times in this chapter, tax expenditures produce other harmful effects. In addition to the loss of revenue for the State, they also make tax systems more complex, increase administration and compliance costs and create opportunities for evasion and avoidance, while reducing fiscal-policy transparency and distorting resource allocation.

Cost-benefit assessments are important for deciding whether each tax expenditure should be maintained, restricted or eliminated; but it also makes fiscal policy more transparent, while helping to improve the efficiency and equity of tax systems. For this, it is essential to strengthen institutional frameworks to enable countries to publish the expected costs, benefits, main beneficiaries and objectives of the tax expenditures in a periodic, timely and detailed manner.

In addition to performing systematic cost-benefit evaluations, it is important to have mechanisms in place for the control and accountability of tax expenditures, as well as to encourage greater citizen participation and enhance coordination among the different government institutions involved. Tax expenditures should be subject to legislative processes; each year's budget discussion should be included in their reports; and they should be presented in a way that facilitates comparison with other budgetary expenditures.

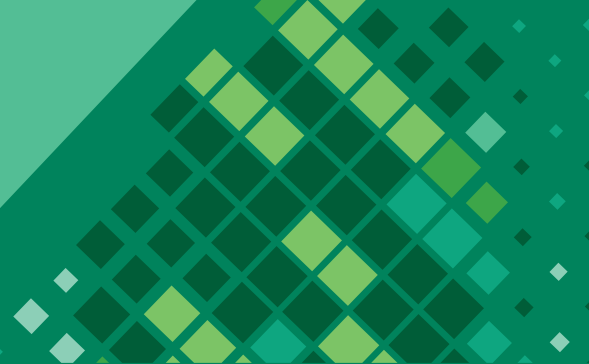
This coordination at the national level should be matched by progress towards greater international cooperation and coordination. The countries of the region could join forces to work towards adopting agreements on the use and transparency of fiscal incentives, strengthening regional tax cooperation and avoiding harmful tax competition, which erodes countries' tax revenues and thus makes it harder to mobilize domestic resources to achieve the SDGs.

The way forward proposed in the 2030 Agenda poses both a challenge and an opportunity for the countries of Latin America and the Caribbean in all areas of public policy. In the specific domain of tax policy, it involves strengthening tax collection, especially in more progressive taxes with greater redistributive impact, as well as strengthening mechanisms to control tax avoidance and evasion both nationally and internationally, where the review and rationalization of tax expenditures that erode tax bases is a fundamental issue. Countries could thus mobilize additional resources to implement public policies aimed at achieving sustainable development in its economic, social and environmental dimensions.

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Fiscal consolidation continued in Latin America and the Caribbean in 2018. The fiscal position in Latin America improved, reflecting cuts in primary spending, mainly through capital expenditures. Despite this adjustment, gross public debt is trending upward in Latin America with rises occurring in several countries. Conversely, the Caribbean countries continue to generate primary surpluses –driven, in 2018, by higher public revenues– and have thus succeeded in reducing their gross public debt levels, which nevertheless remain high.

Fiscal Panorama of Latin America and the Caribbean, 2019 examines the role of tax policy as a tool for driving progress towards achievement of the Sustainable Development Goals. One way to strengthen collection is to address the challenges of taxing the rapidly growing digital economy. Tax policy can also be used to shift production and consumption patterns to encourage decarbonization of the economy and support improvements in public health. Lastly, the document analyses the constraints on domestic resource mobilization caused by fiscal incentives and how, effectively geared towards investment, these incentives could instead foster sustainable and inclusive development.



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