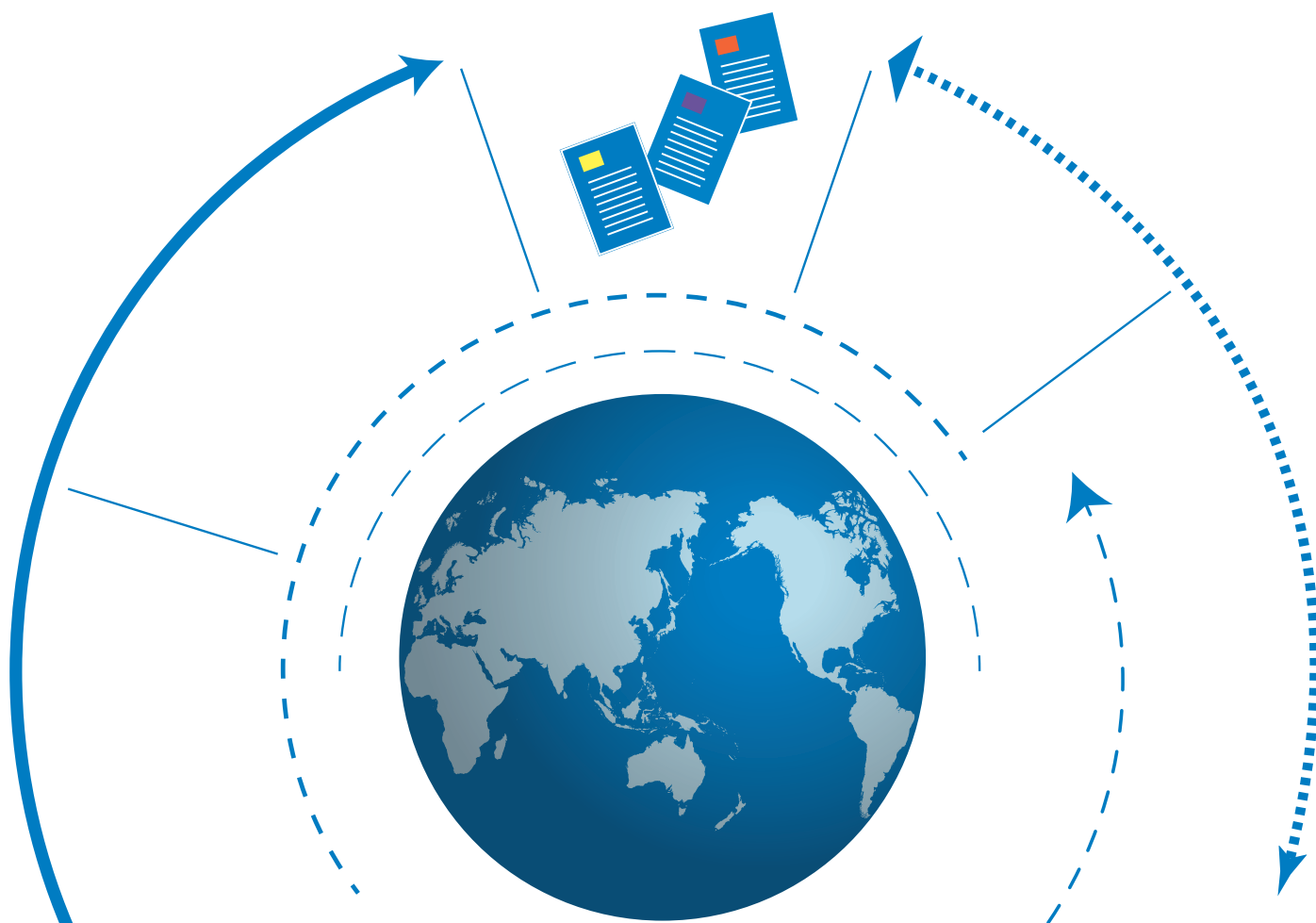




## Revisiting personal income tax in Latin America: Evolution and impact

Alberto Barreix, Juan Carlos Benítez and Miguel Pecho



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## PREFACE

Inclusive and growth-enhancing tax systems are always work in progress. The last two decades of fiscal reforms in Latin America have emphasised indirect taxation while direct taxes, particularly the personal income tax, underwent mild but ineffective reforms. This is a luxury the region cannot afford. Already, the average tax collection in Latin America is 13 percentage points below the OECD average (22% of GDP versus 34%, according to *Revenue Statistics in Latin America and the Caribbean*). As a result, fiscal space to carry out much needed social investments is diminished in a region widely recognised as the most unequal in the world.

The fact that the personal income tax has been an underperforming tax in LAC has been well documented. The added-value of this paper is a further analysis that complements and contrasts the theoretical findings featured in the *Taxing Wages for Latin America and the Caribbean 2016*, a joint publication of the Organisation for Economic Co-operation and Development, the Inter-American Development Bank and the Inter-American Centre of Tax Administrations. The analysis consolidates information provided by tax administrations in 11 countries to estimate the effective rates of personal income tax and to analyse revenue collection by income decile of labour earnings. As this paper shows, the personal income tax is extremely progressive but at the cost of low collection and meagre redistributive power. In this regard, the focus should be on reviewing current exemptions and boosting the real redistributive capacity of the tax, while protecting the earnings of those at the lower end of the income distribution.

This paper contributes to the fiscal policy and social protection for development axis included in the Development Centre's programme of work and also highlights the spirit of inter-institutional collaboration that characterises the OECD Development Centre as it works to help decision makers find solutions that stimulate growth and improve livelihoods in emerging and developing economies. I invite you to read this paper that offers details on the evolution, shortcomings and promises of the personal income tax reform in Latin America.

Mario Pezzini  
Director, OECD Development Centre  
and Special Advisor to the OECD Secretary-General on Development

## RÉSUMÉ

Cette étude documente le processus par lequel les allègements fiscaux et les déductions fiscales standard réduisent la base imposable de l'impôt sur le revenu des personnes physiques (PIT) dans les pays d'Amérique latine en utilisant les modèles développés dans *Taxing Wages pour l'Amérique latine et les Caraïbes 2016*. Les estimations théoriques de l'impôt sur le revenu des personnes physiques sont complétées avec des données fournies par des administrations fiscales. L'étude constate que le PIT est progressif et qu'il n'est payé que par une faible proportion d'individus formellement rémunérés. En moyenne, plus de 80% de la PIT est payée par le dix pour cent de la population la plus riche, mais à des taux effectifs moyens inférieurs au taux moyen de la taxe minimale prévue par la loi. Ces facteurs confondus se traduisent par une faible capacité d'augmentation de recettes et un faible impact sur la redistribution des revenus.

**Classification JEL :** H24 and D31.

**Mots-clés :** L'impôt sur le revenu des particuliers, la répartition des salaires, les déductions fiscales, les exonérations fiscales et le système fiscal.

## ABSTRACT

This study documents the process through which standard tax reliefs and tax allowances reduce the taxable base of the Personal Income Tax (PIT) in Latin American countries by using the models developed in *Taxing Wages in Latin America and the Caribbean 2016*. The theoretical estimations on the personal income tax are complemented with data from the tax administrations. The study finds that the PIT is progressive, but only paid by a small proportion of formal high-wage earning individuals. On average, more than 80% of the PIT is paid by the richest ten per cent of the population but at average effective rates below the region's average statutory minimum tax schedule rate. The combination of these factors results in the PIT having a scant revenue-raising capacity and a meagre impact on income redistribution.

**JEL classification:** H24 and D31.

**Keywords:** Personal income tax, wage distribution, tax deductions, tax exemptions and tax system.

## I. INTRODUCTION

The Personal Income Tax (PIT) has generated the most revenue in the history of the developed countries and it is the tax with the greatest redistributive power. Given these desirable characteristics, most countries use this tax as part of their revenue mobilisation efforts and as a measure to pursue equity within the taxation system. The PIT has consistently averaged around one fourth of total tax collection and approximately 9% of gross domestic product (GDP) in OECD countries for more than half a century (OECD, 2017). Conversely, since its introduction in Latin America as an income tax around 1920, and in its modern version in the late 1960s, the PIT falls short of these estimates. Currently, the PIT comprises 10% of total tax revenue or less than 2% of GDP in Latin America. The purpose of this paper is to review the main factors through which the revenue and redistributive potential of the PIT are diminished, and to present statistical evidence on who bears the tax effort of the PIT throughout the income decile distribution.

This study addresses the income tax levied on individuals for their labour income in Latin America and the Caribbean (LAC)<sup>2</sup> and by utilising the country models developed in *Taxing Wages for Latin America and the Caribbean 2016*, identifies and analyses four features that explain the erosion process of the PIT taxable base. Low statutory tax rates, large standard tax reliefs and high standard tax allowances narrow the personal income taxable base, which in addition to non-standard tax reliefs and evasion decimate the revenue potential of the tax.

The main finding of the paper are that the PIT is a progressive tax paid by only a small proportion of formal high-wage earning individuals, mostly those at the highest income decile and whose basic tax reliefs and standard tax allowances amount to 62% of gross income of their taxable income. In fact, on average, more than 80% of the PIT is paid by the richest decile, as shown by information provided by the national tax administrations. However, high wage-earners paid very low effective average tax rates. Furthermore, the average effective rates of PIT are below the average statutory minimum tax rate in almost every country in the region. The amalgamation of these factors in turn resulted in scant revenue-raising capacity and a meagre impact on income redistribution. Finally, the paper argues that it is not personal income tax that makes the labour factor more costly, but rather the social security contributions, especially those that employers have to pay.

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<sup>2</sup> Taxes on income, profits and capital gains comprise a system of taxes whose composition may be analysed from different perspectives: a) from the taxable person: a natural person, legal entity or corporation b) from the returns on the production factors: labour income (wages, fees and so on); a combination of capital and labor (business) or pure capital (dividends and capital gains, interest and royalties, and so forth); or c) from the location of the taxpayer: residents, non-residents or permanent establishments (Barreix, Garcimartín and Velayos, 2013; Carbajo, 2013).

The first section reviews the main theoretical designs of the tax, its corresponding rates and income brackets, and its main design challenges: narrow tax bases resulting in part from generous tax reliefs, high standard allowances, and the prevalence of tax evasion practices. For each of these problems we present stylised facts that characterise them, and in the case of tax reliefs and standard allowances, we utilise the models from *Taxing Wages in Latin America and the Caribbean* (OECD/CIAT/IDB, 2016) to estimate the proportion of the tax base that is unaffected by the tax.

The second section uses information provided by tax administrations in each country to calculate the effective rates of personal income tax and to analyse observed revenue collection by income decile. This section is complemented by an analysis of the theoretical impact of the taxes on income, social contributions, and other payroll taxes on the wages of employees at fixed annual incomes of USD 10 000 for a household of a one-earner married couple with two children.

The third part of this study analyses the redistributive power of the tax and its implications for equity in income distribution. This section makes use of previous studies, as well as new information obtained by means of fluid communication with the tax administrations of the countries of the region. Finally, the last section summarises and concludes.



## II. STYLISTED FACTS OF PERSONAL INCOME TAX AND ITS EVOLUTION

A country's level of tax revenues and tax structure are a critical to assessing the context of the personal income tax. The analysis of a tax cannot be detached from the context of a country's total tax revenue. Viewing it against its background puts into perspective how much it accounts for within the total tax revenue and its importance within each country's tax structure. Moreover, it renders a better understanding on governments' tax mix preferences to generate their resources.

Latin America and the Caribbean's (LAC) total average tax revenue increased during the past two decades, from 14.6% of GDP in 1990 to 22.8% in 2015 (OECD/ECLAC/CIAT/IDB, 2017). The share of tax revenue, including social security contributions administered by the public treasury, grew by 45% during this whole period, or rose by 7.1 percentage points. Tax revenue, excluding social security contributions (SSCs), increased from an average of 13.6% of GDP in 1990 to 19.1% in 2015. This increase was driven largely by value added tax (VAT) which accounts for more than a third of total tax revenue (excluding SSC). Figure 1, panel A. presents each country's tax structure composition in 1990 and in 2015, namely: VAT and taxes on income, profits and capital gains and social security contributions, which comprise the pillars of any modern tax system (Barreix and Roca, 2007), all of the other taxes (i.e. property taxes, excise taxes, general taxes) are grouped in the category others. Figure 1, panel B, shows the average evolution of these pillars for the LAC region during the entire period and presents an estimated breakdown of income, profits and capital gains taxes into personal income and corporate income taxes.<sup>3</sup>

The gap between LAC and the OECD has narrowed more in terms of total tax revenues than in terms of per capita income. Put differently, tax revenues growth has outpaced per capita income growth and evidences the greater fiscal effort demanded to citizens of LAC countries during the past two decades. Despite the improvements, total tax revenue and per capita income gaps in LAC remain relative to the countries of the Organisation for Economic Co-operation and Development (OECD) as data from OECD/ECLAC/CIAT/IDB (2016) and World Bank (2017) indicate. The gap between total tax revenue in LAC and the OECD narrowed during the last 25 years. The gap was about 12.7 percentage points in 2015, compared to 17.5 percentage points 1990. On the other hand, in 1990 LAC's per capita income, at purchasing power parity (constant

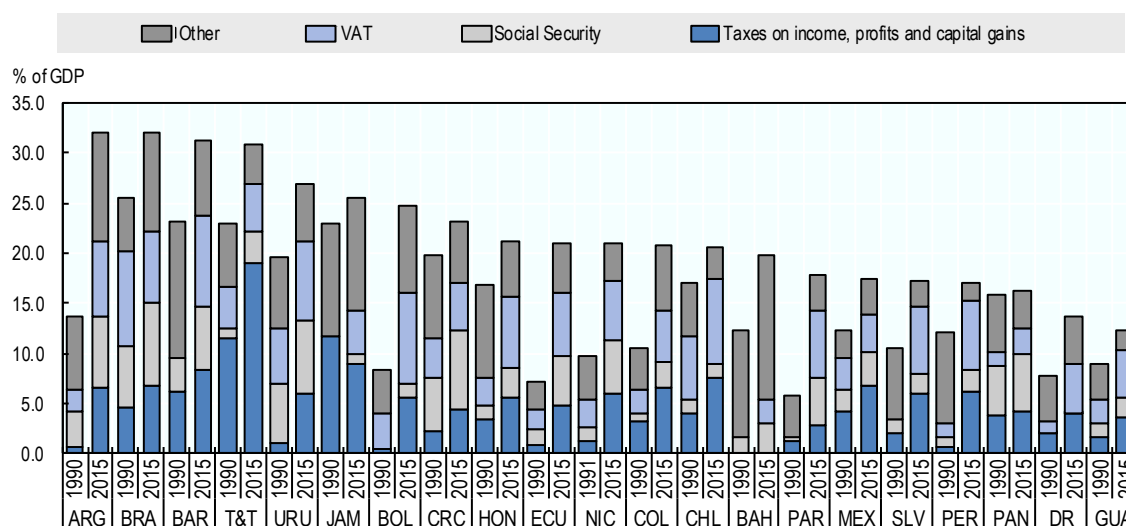
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<sup>3</sup> Prior to 2007, the breakdown of the personal and corporate income taxes are estimations based on data provided by tax administrations, country studies and estimations presented in IDB-CIAT (2015). They should be interpreted with caution since they include large proportions that are classified as un-allocable under the OECD tax classification guidelines.

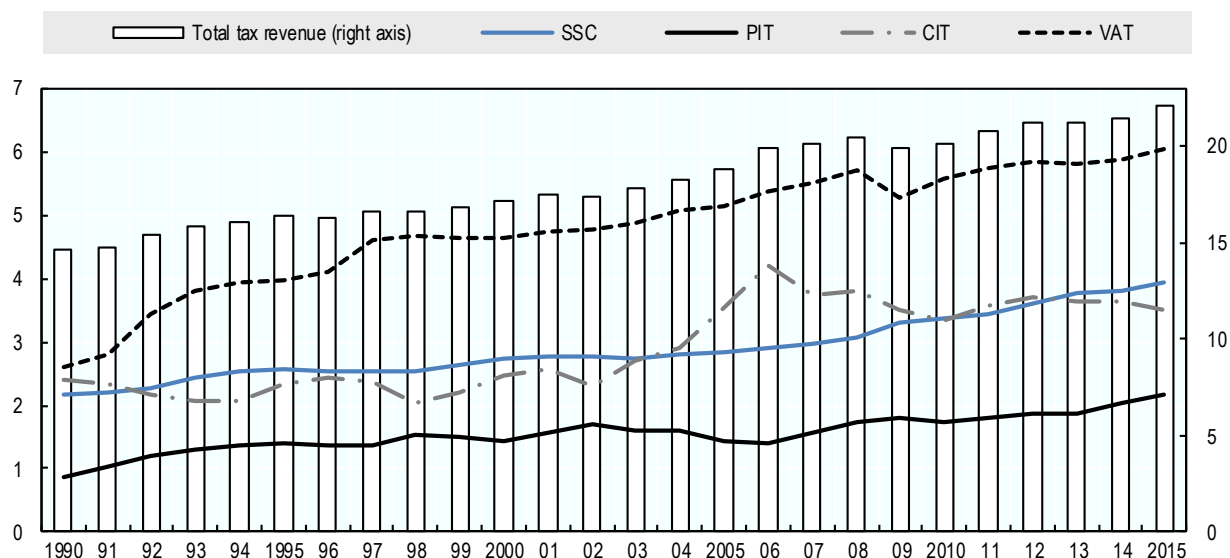
international USD of 2011), represented 36% that of the OECD countries, rising to 38% in 2015, a small increase of 2% average per capita income relative to OECD economies. The gaps in terms of per capita income are significant between the two regions and stood at USD 23 402 (in constant prices of 2011 in PPP).

Figure 1. Tax revenue composition and its evolution

Panel A. Tax revenue and tax structure (1990 vs 2015)



Panel B. LAC tax revenue trends by selected taxes, 1990-2015<sup>a</sup>



a. Unweighted average for LAC, excluding Nicaragua and Venezuela. The breakdown of the personal and corporate income taxes prior to 2007 are estimations based on data provided by tax administrations, country studies and estimations presented in IDB-CIAT (2015). They should be interpreted with caution since they include proportions that are classified as un-allocable under the OECD tax classification guidelines. After 2007 the breakdown of personal and corporate income taxes is taken from OECD (2017).

Sources: OECD/ECLAC/CIAT/IDB (2017), OECD (2017) and IDB-CIAT (2015).

Notwithstanding the increase of total tax revenues, much remains to be improved in the region, especially in respect to direct taxes. Collection of personal income tax in Latin America is low at approximately 2.0% of GDP,<sup>4</sup> relative to the average of 8.5% of GDP collected by the developed countries of the OECD (Figure 2). On the other hand, the corporate income tax (CIT) is relatively more important within LAC's revenue structure, although its relative weight is less than in middle-income countries, than in OECD countries. In LAC USD 0.4 is collected from personal income for every dollar collected from corporate income tax, whereas in other middle income countries the figure is USD 1.1 (Garcimartín, 2012). It is worth noting that LAC is a region endowed with abundant natural resources and many corporations contribute very significant amounts through the CIT derived from the exploitation of natural resources and other commodity products.

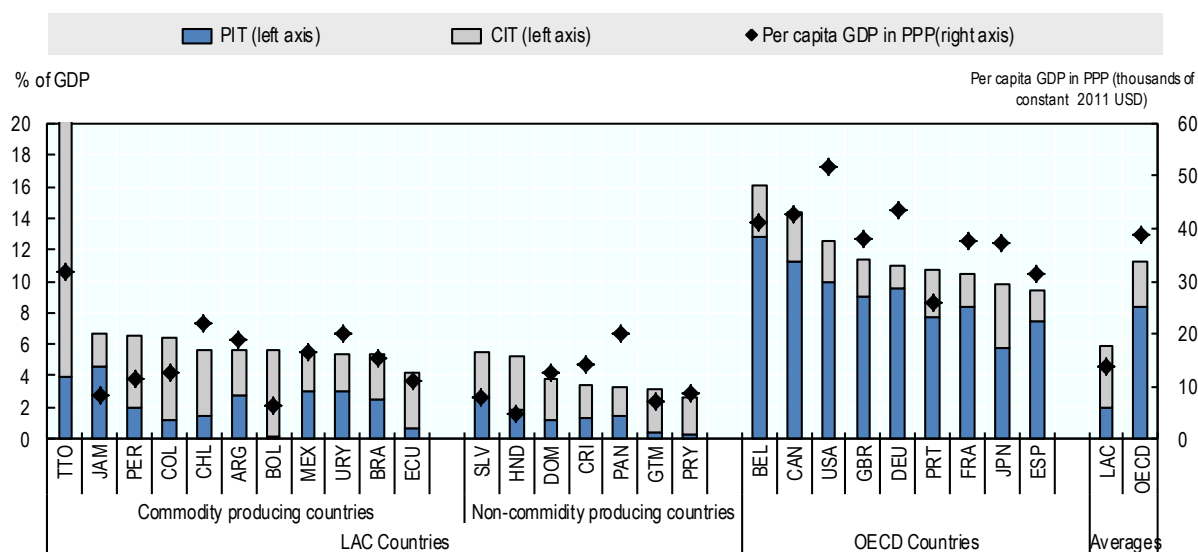
The importance of the corporate income tax within the tax structure is especially important in commodity-rich countries (Figure 2). Revenues from corporate income taxes became even more important since 2003, when the decade of the commodities super-cycle began, as reflected in the rise in prices for such goods in international markets during the 2003-13 decade. The VAT experienced stable growth throughout the in the entire period analysed (1990-2015) and remains the most important source of fiscal receipts. Social security contributions (SSCs) experienced moderate growth since 1990. By contrast, personal income tax continues to be the tax with the slowest growth and the lowest source of revenue when compared to the other fiscal pillars (Figure 1, panel B).

In general, personal income tax collection is low in LAC, deriving most of its revenues from wage-earning employees. On the other hand, capital income is treated favourably in many cases, for instance, by taxing it at very low rates and sometimes even exempting its gains altogether. At the same time, the modest payment of tax on non-wage income is a factor in the modest tax take. The following sections present a review of the main problems afflicting the PIT, as well as of its redistributive capacity and contributions to the equity of the tax system as a whole. The focus will be placed on data from the year 2013 since Taxing Wages country models, from which we estimate the main indicators for this section, are only available to for this year.

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<sup>4</sup> It should be stressed that the LAC revenue averages for corporate income tax and personal income tax as a percentage of GDP should be interpreted with caution given that portions of the revenues raised by these taxes are un-allocable. Nicaragua and Venezuela are excluded from the calculation.

Figure 2. Personal and corporate income tax in LAC and selected OECD countries (2014)



Note: The breakdown of income tax for individuals and businesses was estimated for Mexico, Nicaragua and Ecuador.

Source: OECD (2017) and World Bank (2017).

## II.1 Personal income tax

The importance of the personal income tax cannot be overstated. Throughout its history it is the tax that generates and has generated the most revenue in the history of the developed countries. Furthermore, its redistributive potential is also very well documented (Barreix, Bès and Roca, 2010). The Mirrlees review (2011), which brought together a large number of international tax experts and researchers to identify the characteristics of an ideal tax system, highlighted the fact that direct taxation is the best way of attaining progressivity, while indirect taxes are better suited to pursue efficiency goals. In a region that is considered the most unequal in the planet, improving on equity grounds is in high demand.

Nonetheless, despite its long history<sup>5</sup> as part of tax systems in Latin America, the revenue-raising potential of the tax has not been taken advantage of (Barreix, Garcimartín and Velayos, 2013) in part due to an over-emphasis on progressivity, and the myriad of exemptions, deductions and standard tax allowances that diminish the tax base and thus constrained the revenue raised by the tax and, paradoxically, eroded its redistributive power.

## II.2. Personal income tax rates and revenue

The minimum and maximum statutory rates of personal income tax have trended in opposite directions in Latin American countries. While the minimum statutory rates have

<sup>5</sup> According to González, Martinoli and Pedraza (2009), income tax began to be implemented around 1920 and in its modern version, as a function of the taxable person, in the late 1960s in Latin America.

increased by 4.1 percentage points, from an average of 6.1% in 1985 to 10.2% in 2013, the maximum rates have fallen almost 20 percentage points in the same period, from 46.9% in 1985 to 27.1% in 2013. For OECD economies, the story has been partially different, since both minimum and maximum statutory tax rates diminished by 8.3 and 17 percentage points, respectively, from 1985 to 2013.

The personal income tax average revenue in the LAC region increased from 1.3% of GDP in 1991 to 1.8% of GDP in 2013, despite the reduction of the highest statutory rates. In contrast, the reduction in statutory rates for OECD countries (on average) was accompanied by a decline on the revenues from the personal income tax revenue between 1990 and 2013. In other words, the combination of a rise in minimum rates and a drastic fall in maximum rates contributed, among other factors such as the rise in real income and the improvements on tax administration, to a 42% increase in revenue from the personal income tax.

**Table 1. Minimum and maximum statutory rates of the personal income tax**  
(percentage of taxable income)

Country	1985 / 1986		1991		1997		2003		2009		2013	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Argentina	16.5	45.0	6.0	30.0	6.0	33.0	9.0	35.0	9.0	35.0	9.0	35.0
Bolivia <sup>a</sup>	0.0	30.0	13.0		13.0		13.0		13.0		13.0	
Brazil	0.0	60.0	10.0	25.0	15.0	15.0	15.0	27.5	7.5	27.5	7.5	27.5
Chile	0.0	57.0	5.0	50.0	5.0	45.0	5.0	40.0	5.0	40.0	4.0	40.0
Colombia	0.0	49.0	5.0	30.0	0.4	35.0		35.0	19.0	33.0	19.0	33.0
Costa Rica	5.0	50.0	10.0	25.0	10.0	25.0	10.0	15.0	10.0	15.0	10.0	15.0
Ecuador	19.0	40.0	10.0	25.0	10.0	25.0	5.0	25.0	5.0	35.0	5.0	35.0
El Salvador	3.0	60.0	10.0	50.0	10.0	30.0	10.0	30.0	10.0	30.0	10.0	30.0
Guatemala	11.0	48.0	4.0	34.0	15.0	30.0	15.0	31.0	15.0	31.0	5.0	7.0
Honduras	3.0	40.0	3.0	40.0	9.0	40.0	10.0	25.0	15.0	25.0	15.0	25.0
Mexico	3.0	55.0	3.0	55.0	3.0	35.0	3.0	34.0	1.9	28.0	1.9	30.0
Nicaragua	15.0	50.0	6.0	50.0	10.0	30.0	10.0	25.0	10.0	30.0	10.0	30.0
Panama	13.0	56.0	2.5	56.0	4.0	30.0	4.0	33.0	16.5	27.0	15.0	25.0
Paraguay	5.0	30.0	0.0		3.0	30.0	0.0		0.0		8.0	10.0
Peru	2.0	56.0	5.0	56.0	15.0	30.0	15.0	30.0	15.0	30.0	15.0	30.0
Dominican	2.0	73.0	3.0	70.0	3.0	70.0	15.0	25.0	15.0	25.0	15.0	25.0
Uruguay <sup>a</sup>	0.0	0.0	0.0	0.0	0.7	3.0	0.0	0.0	10.0	25.0	10.0	30.0
Venezuela	12.0	45.0	4.5	45.0	6.0	34.0	6.0	34.0	6.0	34.0	6.0	34.0
<i>Unweighted averages</i>												
<b>LAC</b>	<b>6.1</b>	<b>46.9</b>	<b>5.6</b>	<b>40.1</b>	<b>7.7</b>	<b>31.8</b>	<b>8.5</b>	<b>27.8</b>	<b>10.2</b>	<b>29.4</b>	<b>10.2</b>	<b>27.1</b>
<b>OECD</b>	<b>22.2</b>	<b>52.8</b>	<b>15.9</b>	<b>43.6</b>	<b>15.0</b>	<b>43.6</b>	<b>13.0</b>	<b>37.0</b>	<b>14.0</b>	<b>34.9</b>	<b>14.36</b>	<b>35.5</b>

a. In Bolivia, the rates reflect a supplementary tax on income to control VAT, rather than an actual personal income tax. In the case of Uruguay, the rate for 2003 is a tax on wage-earnings.

Sources: Shome (1999), CIAT (2015) and OECD (2015a).

This paradox stems partly from the fact that combination of standard allowances, standard deductions and exempted income is so high relative to the LAC countries' levels of per capita

income that a significant share of the population is exempt from personal income tax liabilities. Hence, the rise in minimum statutory rates effectively falls on the mass of taxpayers in the upper income deciles, while as the tax brackets rise, the income levels required are so high that practically no taxpayer is affected. Therefore, the decline of the higher statutory tax rates does not significantly affect actual revenue. The evolution of the tax base, the rise in real incomes and improvements in the effectiveness of tax administrations are also important explanatory factors for this paradox.

Table 2. Personal income tax revenue (percentage of GDP)<sup>a</sup>

Country	1991	1997	2003	2009	2013
Argentina	0.0	0.9	1.3	1.6	2.4
Bolivia	0.5	0.4	0.2	0.2	0.2
Brazil	0.1	1.6	1.8	2.2	2.4
Chile	1.1	1.1	1.2	1.3	1.4
Colombia	0.3	0.2	1.0	1.0	1.1
Costa Rica	0.7	0.8	1.3	0.9	1.3
Dominican Rep.	0.5	0.4	0.9	0.9	1.1
Ecuador <sup>b</sup>	..	..	0.6	0.5	0.6
El Salvador	1.1	1.4	1.6	2.1	2.4
Guatemala	0.2	0.2	0.2	0.3	0.3
Honduras	1.4	1.0	0.9	1.5	1.7
Jamaica	4.6	4.7	5.3	5.8	4.6
Mexico	1.8	1.7	2.5	2.3	2.6
Panama	2.7	2.3	2.0	1.9	1.5
Paraguay	..	..	..	0.2	0.2
Peru	0.3	1.0	1.3	1.6	2.0
Trinidad and Tobago	4.6	5.3	4.4	3.5	3.6
Uruguay	0.5	1.2	1.9	2.3	2.8
<i>Unweighted averages</i>					
<b>LAC</b>	<b>1.3</b>	<b>1.5</b>	<b>1.7</b>	<b>1.7</b>	<b>1.8</b>
<b>OECD</b>	<b>9.2</b>	<b>8.7</b>	<b>8.1</b>	<b>8.0</b>	<b>8.3</b>

Notes: “..” is used to denote that the personal income tax was not being enforced in this year.

a. Data prior to 2007 should be interpreted with caution. These figures are estimations based on IDB-CIAT (2015). After 2007, the data are consistent with those presented in OECD (2017), “Revenue Statistics in Latin America: Comparative tables”, *OECD Tax Statistics* (database), <http://dx.doi.org/10.1787/ctpa-revlat-data-en>.

b. Data was estimated for Ecuador based on data provided by the SRI and by classifying monthly withholdings as personal income tax

### II.3. Challenges to the personal income tax

Estimates of the personal income tax revenue as a percentage of GDP appear to be low compared to other taxes and the overall growth trend of the PIT has been surpassed by all other major taxes (Figure 1. Panel B). The dismal performance is explained mainly by four factors that limit the tax’s base and its revenue-raising capacity: i) high standard tax reliefs (personal deductions and income exemptions); ii) high standard tax allowances; iii) narrow tax bases; and iv) high levels of tax evasion and avoidance.

i. Generous standard tax reliefs (standard deductions and exempted income provisions).

Standard tax reliefs are deductions to the gross income that are unrelated to the actual expenses incurred by taxpayers and automatically available to all taxpayers who satisfy the eligibility rules established in the legislation of each country (OECD, 2014), these include deductions for all mandatory social contributions, paid vacations and supplementary salaries or year-end bonuses for the Latin American countries, Jamaica, and Trinidad and Tobago, where applicable. The tax literature on the region has widely acknowledged that one of the problems constraining the revenue-raising capacity of personal income tax consists of these personal deductions and exempted income provisions that are applied to the gross income of individuals (Gómez-Sabaíni, Jiménez and Rossignolo, 2012; ECLAC, 2013; Barreix, Garcimartín and Velayos, 2013).

While it is true that some of these tax reliefs can be defended, such as, contributions to social security and health insurance, many are difficult to justify, such as annual bonuses, and moreover some of them can be regressive. In this regard, using the Non-Tax Compulsory Payments (NTCP) methodology used to estimate tax wedges (see Section III) in OECD/CIAT/IDB (2016), *Taxing Wages in Latin America and the Caribbean*, we accounted for the standard tax reliefs and exempted income available to wage-earning employees—that is, those that are granted automatically if the taxpayer meets some basic condition, and that do not require the taxpayer to behave in a certain way or present some supporting documentation.

**Box 1. Estimating the taxable base of the personal income tax**

Using the country models developed for *Taxing Wages in Latin America and the Caribbean* (OECD/CIAT/IDB, 2016), it is possible to identify and group the different items that reduce the tax base of the personal income tax as follows: Starting with the annual wage-earnings of individuals, we subtract all standard tax reliefs (these are personal deductions and income that is not considered as taxable) to the gross wage-earnings. Standard tax reliefs are unrelated to the actual expenses incurred by taxpayers and automatically available to all taxpayers who satisfy the eligibility rules established in the legislation of each country. After deducting standard tax reliefs, we obtain the taxable income to which we subtract the standard tax allowance, which is defined as the portion of the taxable income which is exempted from tax liability, thus reaching the tax base of the personal income tax.

	Gross labour income
-	<u>Standard tax reliefs (personal deductions and exempted income)</u>
=	Taxable income
-	<u>Standard tax allowance</u>
=	<b>Tax base of personal income tax</b>

On average in LAC, a single person with no children is entitled to tax reliefs totalling USD 4 331. Tax reliefs rise to USD 4 818 for a one-earning married couple with two children. Keeping in mind that the region's average wage and average per capita GDP are USD 8 072 and USD 8 670 respectively, the countries are foregoing tax on 54% and 60% of the average earnings of salaried employees. The quantification of these tax reliefs is estimated on the base of the countries' legislation for fiscal year 2013.

Furthermore, in 5 of the 20 countries of the region for which estimations were possible, it is apparent that the standard tax reliefs to which workers are entitled are even higher than the workers' average wages. The degree of variability in the tax reliefs, even for countries with

similar average salaries, might be an indication that these require revising to improve on their design.

**Table 3. Standard tax reliefs applicable to average gross wage-earnings (2013)**

Country	Personal income tax revenue per capita in USD	Average wage in USD	Standard tax reliefs	
			Tax reliefs for a single person earning an average wage, USD	Tax reliefs for a one-earner married couple with two children, earning an average wage, USD
Argentina	345	13 256	18 853	25 136
Bolivia	4	5 791	5 693	5 693
Brazil	300	10 525	2 105	3 820
Chile	225	13 334	2 544	2 544
Colombia	90	9 436	2 855	3 799
Costa Rica	136	11 428	939	939
Dominican Rep.	61	5 405	155	155
Ecuador	36	8 007	2 073	2 073
El Salvador	91	5 308	2 071	2 071
Guatemala	10	5 925	7 321	7 321
Honduras	39	5 851	2 989	2 989
Jamaica	236	3,653	5 253	5 253
Mexico	289	7 748	180	180
Nicaragua	n.a.	3 205	447	447
Panama	15	9 202	-	800
Paraguay	1	8 106	730	730
Peru	127	6 267	9 529	9 529
Trinidad and Tobago	746	7 718	9 721	9 721
Uruguay <sup>a</sup>	498	12 616	-	-
Venezuela	n.a.	8 671	13 179	13 179
Unweighted averages				
<b>LAC</b>	<b>172</b>	<b>8 073</b>	<b>4 332</b>	<b>4 819</b>
<b>OECD<sup>b</sup></b>	<b>3 899</b>	<b>45 397</b>	<b>6 494</b>	<b>9 125</b>

a. Uruguay is a notable case, inasmuch as the tax reliefs do not reduce the base but operate as a negative tax. Belgium and Spain use similar schemes, with a first (tax allowance) zero-rated bracket that makes it possible to increase the tax's progressivity and redistributive capacity.

b. OECD average of 32 countries, excluding Chile and Mexico.

Source: Prepared by the authors based on OECD/CIAT/IDB (2016) and OECD (2014).

Moreover, if we segment the analysis throughout the income distribution by deciles, it is apparent that up until the third decile, standard tax reliefs alone are enough to offset any personal income tax liability. For these low-earning deciles, standard tax reliefs are greater than their wage earnings. As wage earnings increase, average standard tax reliefs slowly decrease too. But even the higher-income deciles—these are deciles, 8, 9 and 10—are entitled to deducting an average of 53%, 44% and 29% of their gross wage-earnings, respectively; these are not insignificant proportions. Additionally, there are non-standard tax reliefs that have not been



quantified for this analysis. These added deductions are in respect of from mortgage interest payments, spending on education for children of a certain age and medical expenses and tend to benefit those deciles with the highest incomes in the countries of the region. Therefore, it is very likely that the figures presented are underestimations of total tax reliefs available to these deciles.

**Table 4. Average standard tax reliefs as a share of income decile**

Country	Deciles of income <sup>a</sup>									
	1	2	3	4	5	6	7	8	9	10
Argentina	5.0	3.0	2.5	2.2	2.0	1.7	1.5	1.3	1.1	0.8
Bolivia	2.3	1.7	1.5	1.3	1.2	1.1	1.0	0.9	0.7	0.5
Brazil	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.2
Chile	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Colombia	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Costa Rica	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Dominican Rep.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ecuador	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
El Salvador	0.8	0.7	0.7	0.6	0.5	0.5	0.4	0.3	0.3	0.1
Guatemala	2.5	1.9	1.7	1.6	1.5	1.4	1.3	1.1	1.0	0.6
Honduras	1.0	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.3
Jamaica	8.6	8.3	6.6	2.6	2.5	1.9	1.3	1.3	0.8	0.4
Mexico	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nicaragua	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Panama	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Paraguay	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Peru	4.1	3.0	2.7	2.4	2.1	1.8	1.6	1.3	1.0	0.5
Trinidad and Tobago	6.5	3.3	2.5	2.0	1.7	1.4	1.2	1.0	0.8	0.5
Uruguay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Venezuela	2.8	2.4	2.2	2.0	1.8	1.7	1.5	1.4	1.1	0.6
<b>LAC unweighted average</b>	<b>1.85</b>	<b>1.33</b>	<b>1.13</b>	<b>0.85</b>	<b>0.78</b>	<b>0.68</b>	<b>0.59</b>	<b>0.53</b>	<b>0.44</b>	<b>0.29</b>

<sup>a</sup>Average income deciles were estimated based on household surveys of 2013.

Source: Prepared by the authors based on *Taxing Wages in Latin America and the Caribbean* country models.

## ii. High standard tax allowances

Another factor that plays an important role in voiding the personal income tax are the high levels tax allowances required to begin paying taxes once the tax reliefs on gross wage-earnings have been discounted. On average, an income equivalent to 1.32 times per capita GDP and 0.99 times the average wage is needed to be subject to a tax obligation to the tax authorities in the LAC region. This ratio is 0.12 for OECD countries in respect of GDP per capita and average wage. In the middle-income countries the ratio to per capita GDP is 0.7, and thus it is clear that this is a peculiarity of the region that does not arise from its development level (Garcimartín, 2012). At the same time, if taxpayers are to be obliged to pay the maximum marginal rate set out in each country's legislation, then on average their income must be 6.54 times the average per

capita income and 5.72 times the average wage, which is 3.0 and 2.55 percentage points higher than OECD averages, as shown in Table 5.

**Table 5. Standard tax allowance and highest PIT income bracket relative to GDP per capita and average wage-earnings (2013)**

Country	Standard tax allowance (USD)	Standard tax allowance (as a share of GDP per capita)	Standard tax allowance (share of average wage)	Highest PIT income bracket category (USD)	Highest PIT income bracket (as a share of GDP per capita)	Highest PIT income bracket (as a share of the average wage)
Argentina	1 818	0.12	0.14	21 818	1.49	1.65
Bolivia <sup>a</sup>	0	0.00	0.00	0	0.00	0.00
Brazil	9 525	0.85	1.01	23 782	2.13	2.52
Chile	13 178	0.84	0.99	146 417	9.28	10.98
Colombia	15 653	1.95	1.66	58 878	7.33	6.24
Costa Rica	17 462	1.63	1.53	26 193	2.44	2.29
Dominican Rep.	9 566	1.63	1.77	19 929	3.39	3.69
Ecuador	10 180	1.71	1.27	103 810	17.47	12.96
El Salvador	4 064	1.06	0.77	22 857	5.96	4.31
Guatemala	0	0.00	0.00	38 174	10.99	6.44
Honduras	5 574	2.36	0.95	25 338	10.72	4.33
Jamaica <sup>a</sup>	5 162	0.99	1.41	0	0.00	0.00
Mexico	0	0.00	0.00	30 769	2.89	3.83
Nicaragua	4 045	2.21	1.26	20 224	11.04	6.31
Panama	11 000	1.01	1.20	50 000	4.60	5.43
Paraguay	41 098	9.43	5.07	45 664	10.48	5.63
Peru	0	0.00	0.00	73 507	11.31	11.73
Trinidad and	0	0.00	0.00	0	0.00	0.00
Uruguay	10 923	0.65	0.87	179 454	10.66	14.22
Venezuela	0	0.00	0.00	102 161	8.70	11.78
<b>LAC average</b>	<b>7 962</b>	<b>1.32</b>	<b>0.99</b>	<b>49 449</b>	<b>6.54</b>	<b>5.72</b>

a. Bolivia, Jamaica and Trinidad and Tobago have flat personal income tax rates. Therefore, there is no personal income tax schedule.

Source: Prepared by the authors based on *Taxing Wages in Latin America and the Caribbean* country models.

The estimated ratios of the standard tax allowances on average wage-earnings by income decile in LAC shows that, on average, standard tax allowances are enough to offset any PIT liability for all taxpayers, except those who belong to the deciles 8, 9 and 10. Estimations show that an individual at the middle of the income distribution (5th decile) would require earning 50% more of the current wage to overcome the standard tax allowance. Nonetheless, it should be recalled that the taxable base of the PIT is determined after deducting the applicable standard tax reliefs and after considering the standard tax allowances (Table 6).

Table 6. Standard tax allowances as a share of the average income deciles

Country	Income deciles <sup>a</sup>									
	1	2	3	4	5	6	7	8	9	10
Argentina	0.44	0.26	0.21	0.19	0.17	0.14	0.12	0.11	0.09	0.06
Bolivia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brazil	2.65	2.45	2.17	1.90	1.66	1.39	1.18	0.92	0.66	0.27
Chile	3.87	2.61	2.55	2.38	2.07	1.80	1.47	1.14	0.81	0.34
Colombia	4.26	3.53	3.33	3.07	2.72	2.37	1.95	1.56	1.11	0.49
Costa Rica	6.29	3.63	3.02	2.67	2.36	2.03	1.69	1.32	0.93	0.50
Dominican Rep.	6.75	4.79	3.90	3.23	2.72	2.32	1.99	1.53	1.06	0.53
Ecuador	3.03	2.52	2.40	2.14	1.84	1.59	1.35	1.08	0.85	0.44
El Salvador	1.91	1.61	1.45	1.34	1.16	0.96	0.77	0.65	0.52	0.26
Guatemala	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Honduras	2.34	1.61	1.43	1.31	1.25	1.15	0.97	0.79	0.62	0.36
Jamaica	8.61	8.25	6.55	2.62	2.46	1.91	1.32	1.24	0.76	0.34
Mexico	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nicaragua	3.20	2.48	2.13	1.93	1.71	1.52	1.36	1.17	0.90	0.43
Panama	3.70	2.40	2.19	2.06	1.86	1.59	1.36	1.16	0.89	0.37
Paraguay	12.48	9.52	8.86	7.85	7.10	6.06	5.21	4.41	3.42	1.86
Peru	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trinidad and Tobago	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uruguay	3.00	1.93	1.59	1.36	1.19	1.02	0.88	0.72	0.57	0.32
Venezuela	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>LAC average</b>	<b>3.13</b>	<b>2.38</b>	<b>2.09</b>	<b>1.70</b>	<b>1.51</b>	<b>1.29</b>	<b>1.08</b>	<b>0.89</b>	<b>0.66</b>	<b>0.33</b>

a. Average income deciles were estimated based on household surveys of 2013.

Source: Prepared by the authors based on *Taxing Wages in Latin America and the Caribbean* country models.

Adding the standard tax reliefs (Table 4) and standard tax allowances (Table 6), renders the average share of gross wage earnings which are exempted from the PIT. These shares amount to 1.42, 1.09 and 0.62 relative to the annual average income of the three richest deciles, respectively (Table 7). To put it another way, and leaving aside the underestimation of deductions that might be occurring, on average Latin America, Jamaica, and Trinidad and Tobago would be levying personal income tax on a total of labour income that stands at only 38% of the wage-earnings obtained by taxpayers in the tenth decile.

Table 7. Standard tax reliefs and tax allowances as a share of the average income decile (2013)

Country	Income deciles <sup>a</sup>									
	1	2	3	4	5	6	7	8	9	10
Argentina	5.44	3.26	2.67	2.36	2.14	1.87	1.62	1.43	1.22	0.85
Bolivia	2.25	1.74	1.48	1.33	1.19	1.07	0.97	0.86	0.73	0.53
Brazil	3.18	2.96	2.64	2.33	2.05	1.74	1.50	1.21	0.91	0.47
Chile	4.06	2.80	2.74	2.57	2.26	1.99	1.66	1.33	1.00	0.53
Colombia	4.56	3.89	3.69	3.42	3.07	2.72	2.30	1.91	1.47	0.85
Costa Rica	6.37	3.71	3.11	2.76	2.44	2.12	1.78	1.41	1.01	0.58
Dominican Republic	6.75	4.79	3.90	3.26	2.75	2.35	2.01	1.56	1.09	0.56
Ecuador	3.19	2.78	2.66	2.40	2.10	1.85	1.61	1.34	1.11	0.70
El Salvador	2.66	2.33	2.11	1.95	1.71	1.42	1.16	1.00	0.81	0.39
Guatemala	2.50	1.85	1.69	1.60	1.49	1.37	1.27	1.14	0.98	0.62
Honduras	3.35	2.35	2.11	1.96	1.87	1.74	1.49	1.25	1.01	0.66
Jamaica	17.25	16.52	13.13	5.27	4.94	3.84	2.66	2.50	1.54	0.70
Mexico	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.02	0.02	0.01
Nicaragua	3.28	2.56	2.22	2.07	1.85	1.66	1.50	1.31	1.04	0.57
Panama	3.81	2.48	2.27	2.13	1.92	1.65	1.41	1.20	0.92	0.39
Paraguay	12.48	9.52	8.95	7.94	7.19	6.15	5.30	4.50	3.51	1.95
Peru	4.06	3.04	2.67	2.38	2.07	1.82	1.60	1.32	1.03	0.54
Trinidad and Tobago	6.47	3.32	2.50	2.03	1.69	1.43	1.21	1.00	0.79	0.47
Uruguay	3.00	1.93	1.59	1.36	1.19	1.02	0.88	0.72	0.57	0.32
Venezuela	2.83	2.36	2.16	1.98	1.83	1.70	1.54	1.38	1.13	0.63
<b>LAC average</b>	<b>4.88</b>	<b>3.71</b>	<b>3.22</b>	<b>2.56</b>	<b>2.29</b>	<b>1.98</b>	<b>1.67</b>	<b>1.42</b>	<b>1.09</b>	<b>0.62</b>

a. Average income deciles were estimated based on household surveys of 2013.

Source: prepared by the authors based on *Taxing Wages in Latin America and the Caribbean* country models.

### iii. Narrow tax bases

The average per capita income in OECD economies is 6.5 times higher than the average per capita income in the Latin American countries. Additionally, and as shown earlier, the tax base for personal income tax is narrowed by the standard tax reliefs and tax allowances, on average affecting only those in the highest income decile. In most of the countries, the application of the tax to individuals has been confined to employees' wage-earnings, applied almost exclusively through withholdings at source of the wages of workers in large corporations, and the wages of public employees (Tanzi, 2000). According to estimates by Gómez-Sabañi, Jiménez and Rossignolo (2012), personal income tax affects only a minority group of the population, 10% of the economically active, with the exception of a few countries. Furthermore, some countries continue to choose not to tax various kinds of capital income on the assumption that savings and foreign investment might be affected, diminishing the available tax base. At the same time, there is practically no taxation of self-employed or independent workers and these sources of income have been eroded further by the introduction of mechanisms such as special regimes, minimum taxes that substitute the personal income tax, and presumptive tax regimes for the self-employed that might be encouraging avoidance and that hamper oversight on the part of the tax

administrations. In many countries, personal income taxes are applied on a territorial basis, thus income earned abroad is not taxed, or world income is taxed but information is not exchanged, enabling avoidance and evasion.

#### iv. High levels of evasion

Tax evasion may be understood as any fraudulent practice or conduct that seeks to evade payment of taxes. In the developed countries, evasion ranges between 5% and 15% of potential tax revenue, while in the developing countries it exceeds 30% (Espada Tejedor, 2006).

As rightly pointed out by Gómez-Sabaíni, Jiménez and Rossignolo (2012), compliance is crucial to formulating good tax policy and control of evasion is vital to improving the distributive impact of the tax system. The proliferation of evasive practices poses an obstacle to the growth and equity, both on vertical and horizontal grounds, of tax system. These authors present estimates of the rate of evasion of VAT, and of personal and corporate income tax in those few countries that have such estimates (Table 8). It should be noted that, on average, levels of personal income tax evasion are much higher than those estimated for VAT, albeit lower than in the case of corporations.

**Table 8. Estimated non-compliance rates of the VAT and income taxes**  
(% of potential revenue)

Country	VAT		Income tax			
	Estimated rate of evasion	Year	Estimated rate of evasion			Year
			Total	Individuals	Corporate	
Argentina	21.2	2006	49.7	-	-	2005
Chile	11.0	2005	47.4	46.0	48.4	2003
Ecuador	31.8	2005	63.8	58.1	65.3	2005
El Salvador	27.8	2006	45.3	36.3	51.0	2005
Guatemala	37.5	2006	63.7	69.9	62.8	2006
Mexico	20.0	2006	41.6	38.0	46.2	2004
Peru	37.7	2006	48.5	32.6	51.3	2006
Uruguay	26.3	2006	-	-	-	-

Source: Gómez-Sabaini, Jiménez and Rossignolo (2012).

## II.4. Tax expenditures

Tax expenditures are defined as the resources that governments forego by granting incentives and benefits that reduce the tax liability of certain taxpayers (Villela, Lemgruber and Jorrat, 2009; Pecho, 2014). In Latin America, the average foregone tax was equivalent to 4.3% of GDP during the period 2008–12. For a region whose average tax revenue (excluding social security contributions) amounted to 17.9% of GDP during the same period, tax expenditures are excessively high (24% of average regional tax receipts). An extreme case is Guatemala, where the foregone revenue exceeds 50% of total tax revenue.

Tax expenditures have negative effects on the tax system's equity. In particular, and as mentioned earlier, personal income tax deductions (about 0.7% of GDP) – derived from mortgage interest payments, spending on education and exemptions for capital income – generally tend to benefit only the higher-income sectors and thus comprise a very regressive form of tax expenditure.

The significant levels of revenues that the governments of the region voluntarily forego are presented in Table 9. It should be noted that there are several ways of quantifying tax expenditures contingent on the different items countries decide to include, a circumstance that hampers direct comparisons between countries. For example, some countries consider social security contributions as exempt income, thus treating them as tax expenditures, while others do not (Pecho, 2014). The range of methodological approaches used by the countries to make these estimates could mean that the total amount of personal income tax expenditures is being underestimated or overestimated and, moreover, takes no account of levels of evasion or the tax's revenue-raising capacity.

**Table 9. Tax expenditures of the personal income tax (% of GDP)**

Argentina (2014)	0.59
Bolivia (2013)	0.08
Brazil (2014)	0.67
Chile (2014)	2.78
Colombia (2010)	0.33
Costa Rica (2013)	0.01
Ecuador (2012)	0.46
El Salvador (2013)	1.20
Guatemala (2014)	1.90
Honduras (2012)	0.27
Mexico (2015)	0.92
Nicaragua (2010)*	0.40
Panama	n.a.
Paraguay (2014)	0.13
Peru (2012)	0.15
Dominican Republic (2015)	0.80
Uruguay (2013)	0.51
Venezuela	n.a.
<b>Unweighted average</b>	<b>0.70</b>

*Sources:* MECON (2015); Ministerio de Economía y Finanzas Públicas de Bolivia (2014); Receita Federal (2014); SII (2014); World Bank (2012); Ministerio de Hacienda de Costa Rica (2014); SRI (2012); Funde (2013); SAT (2013); Pecho (2014); SHCP (2015); Ministerio de Hacienda y Crédito Público de Nicaragua (2010); GIZ, CIAT and SET (2015); SUNAT (2011); and DGI (2015).

### III. INCIDENCE OF THE PERSONAL INCOME TAX

Up to this section, attention has centred exclusively on ways in which the personal income tax's revenue is voided relative to its potential, without addressing matters related to its incidence and progressivity. This section analyses the observed average rates of personal income tax on each of the deciles throughout a country's income distribution, using information provided by the tax administrations of each country. In general, the data shows that, in line with findings in earlier sections, personal income tax exclusively affects the higher-income deciles, with few exceptions. It should be underlined, moreover, that there are differences between the income recorded by household surveys and the income reported in the income tax returns. The latter income is higher given the income threshold set by most tax administrations for individuals to be obliged to file income tax returns. Similarly, note that these returns do not capture all capital income, not even in integrated systems, such as that derived from capital gains or undistributed earnings.<sup>6</sup> Given these differences, theoretical estimates of standard personal deductions, income exemptions and tax allowances cannot be directly extrapolated to the decile income distribution estimates that arise from tax returns. However, these theoretical estimates are still a useful parameter to explain the levels of observed tax revenues, as provided by the tax administrations.

This section also presents a summary of the taxes, including all mandatory social security contributions, levied on wages and paid by workers and employers.

#### III.1. Effective tax rates of the personal income tax

Using information provided by the tax administrations of Argentina, Bolivia, Brazil, Costa Rica, Ecuador, Honduras, Mexico, Paraguay, Peru, the Dominican Republic and Uruguay, as well as a fiscal incidence study for Chile, we estimated the observed average effective rates. This rate derives from the ratio between the tax or benefit (in the case of refunds) in the tax year and the gross income of each income decile according to the returns received by the tax administrations. The rate measures the effectively paid as income tax as a proportion of the gross income.

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<sup>6</sup> The data presented are based on tax returns provided by the tax administrations. In many cases, depending on the legislation, capital income is not considered. They also differ from estimates based on household income surveys, and even from calculations based on the OECD methodology for *Taxing Wages in Latin America and the Caribbean*. Additionally, they differ from those based on income surveys, including those that consider the gross exploitation surplus of national accounts. While this correction better approximates the total income earned by households, it is not without problems: a) the gross exploitation surplus (GES) is a measure obtained by the difference in the national accounts; b) the GES is not automatically allocated by deciles; and c) a portion could have been distributed in the current income distribution or even come from previous fiscal years.

**Table 10. Personal income tax: Observed average rates by labour-income deciles**  
(Tax paid as a share of gross income, 2013)

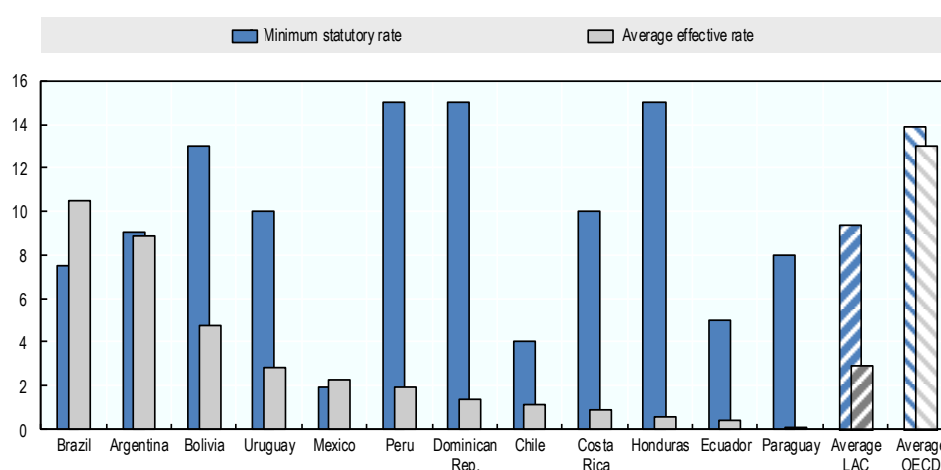
Deciles	1	2	3	4	5	6	7	8	9	10	Unweighted average
Argentina <sup>a</sup>	2.6	3.1	3.9	6.0	7.7	8.6	10.1	11.9	14.3	20.5	8.9
Bolivia	0.0	0.0	0.6	2.6	4.1	5.4	6.7	7.7	8.8	11.3	4.7
Chile	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.8	10.4	1.2
Costa Rica	0.0	0.0	0.1	0.1	0.1	0.3	0.4	1.2	1.9	4.5	0.9
Honduras	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8	0.6
Ecuador <sup>a</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.9	2.6	0.4
Mexico	-0.2	0.0	0.3	0.9	1.1	1.6	2.8	3.3	5.8	6.8	2.2
Paraguay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0
Peru	0.2	0.3	0.4	0.4	0.3	0.3	0.5	0.7	2.8	13.2	1.9
Dominican Republic <sup>aa</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	12.6	1.4
Uruguay	0.0	0.0	0.0	0.0	0.0	0.1	1.5	4.5	8.3	14.0	2.8
<b>Unweighted average</b>	<b>0.2</b>	<b>0.3</b>	<b>0.5</b>	<b>0.9</b>	<b>1.2</b>	<b>1.5</b>	<b>2.0</b>	<b>2.7</b>	<b>4.0</b>	<b>9.2</b>	<b>2.3</b>

a. The average rates of paid PIT are levied only on wage-earnings.

Source: Prepared by the authors on the basis of information provided by the tax administrations: AFIP in Argentina; Directorate of Taxes in Bolivia; DGH in Costa Rica; SRI in Ecuador; SAT in Mexico; SET in Paraguay; SUNAT in Peru; DGII in the Dominican Republic; and DGI in Uruguay and Jorratt (2010) for Chile.

The average effective rate for all countries and all income deciles is very low at just 2.3% of gross wage-earnings (Table 10). This figure confirms the low rate of the PIT as a share of average wages in Latin America. While there is wide diversity in the effective rates, the evidence shows that they are far below the statutory rates established by the countries' legislation, and with very few exceptions (Brazil and Mexico) do they surpass the lower statutory PIT rates (Figure 3). This highlights the fact that wage-earnings taxed at higher rates generate meagre revenues in Latin American countries.

**Figure 3. Personal income tax average minimum statutory and effective rates (2013)**



Note: Unweighted averages for LAC and OECD countries. LAC average includes Argentina, Bolivia, Brazil, Chile, Costa Rica Dominican Republic, Ecuador Honduras, Mexico, Paraguay Peru, and Uruguay.

Source: Authors' elaboration based on data provided by tax administrations and OECD (2014).



The PIT is progressive by design. Individuals with higher incomes pay a higher proportion of the tax. It is also true; however, that very few people pay the tax at LAC average effective rates (3.0 % of gross wage-earnings) even lower than the LAC average statutory minimum rate (9.5%). This is a difference of 6.5 percentage points. As a result, the revenue-raising capacity of the tax and its redistributive capacity are effectively decimated.

### III.2. Personal income tax revenue by income decile

Focusing on how much revenue is raised from the effective tax rates along the income decile distribution; Table 11 presents the PIT revenue observed by the tax administrations. These figures are calculated by performing a microanalysis of the tax returns and cover all revenue raised from personal income tax.

The data indicate that the income tax system is unobjectionably progressive. In respect of vertical equity, individuals with higher incomes bear a greater bulk of the PIT. Indeed, the tenth decile pays on average 1.1% of GDP, and on average the contribution of the first seven deciles almost negligible in terms of the revenue raised from the tax.

Hence it might seem that the system is not progressive. But if the income were to be ordered and divided into deciles, the outcome would be to reproduce the patterns exhibited by the other countries, where the higher-income deciles pay a greater proportion of the tax.

**Table 11. Personal income tax revenue<sup>a</sup> by income decile (2013)**  
(percentage of GDP)

Deciles	I	II	III	IV	V	VI	VII	VIII	IX	X	PIT revenue
Argentina <sup>b</sup>	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.4	1.1	2.3
Bolivia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Chile*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5
Costa Rica	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	1.0	1.4
Honduras	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1
Ecuador <sup>b</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.6	0.9
Mexico	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.5	1.9	2.8
Paraguay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Peru	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.4	1.5
Dominican Republic <sup>b</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Uruguay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	1.9	2.5
<b>LAC unweighted average</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>0.2</b>	<b>1.1</b>	<b>1.4</b>

b. Revenue from PIT on wages only.

Source: prepared by the authors on the basis of information provided by the tax administrations: AFIP in Argentina; Directorate of Taxes in Bolivia; DGH in Costa Rica; SRI in Ecuador; SAT in Mexico; SET in Paraguay; SUNAT in Peru; DGII in the Dominican Republic; DGI in Uruguay; and Jorrat (2010) for Chile. The data are for 2013 except for Argentina (2014) and Chile (2010).

### III.3. The tax wedge: personal income tax, social security contributions and payroll taxes

In the past two decades, numerous academic and international institutions have recommended limiting social security contributions in order to foster job creation. These proposals are grounded in a wide range of economic justifications. For some (European Commission, 1994; OECD, 1994), the reduction of taxes on labour is a means of lowering labour costs and thereby favouring labour demand. In a similar vein, others (Prescott, 2004) have found that the reduction in taxes would increase net wages (Melguizo and González-Páramo, 2012)<sup>7</sup> and the labour supply. And for the developing economies, especially in Latin America, some authors have focused on the positive effects that tax reductions have on economic formality (Levy, 2008; Pagés, 2010).

Previously, there were no sources of information that systematically and uniformly compared labour costs, as well as the effects of taxes and social contributions (pensions, healthcare, unemployment, work injury and family allowances) on labour in the region, which was a significant constraint. Recently, OECD/CIAT/IDB (2016) estimated these costs, distinguishing between social security contributions paid by employees and employers. Tax wedges are the share of the total labour cost that the employee does not receive because of payment of taxes on wages, mandatory social security contributions by employees and employers, and payroll taxes paid by employers, net of transfers received by the government. The cost of labour is thus the sum of all the costs that the employer incurs when making a job offer—that is, the employee’s wage, social security contributions, and payroll taxes borne by the employer (OECD, 2015b).

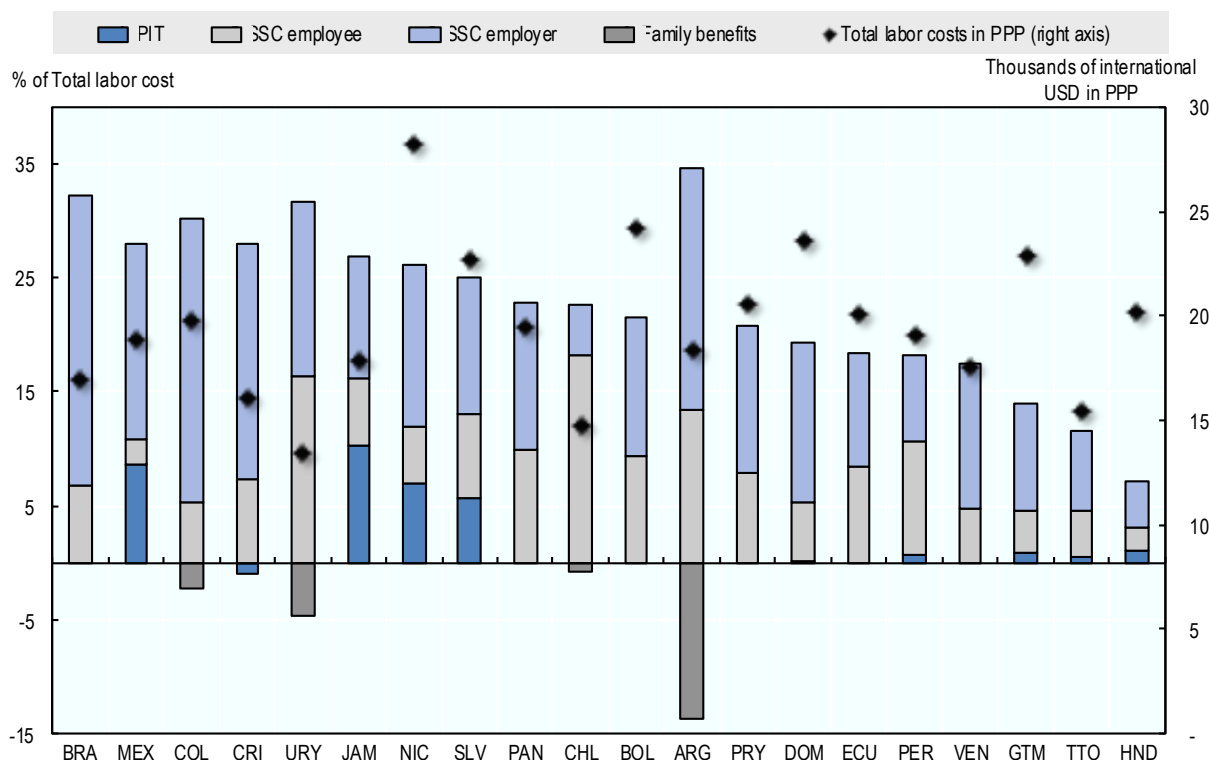
The composition of the total disaggregated tax wedge, as well as the employer’s total labour costs and the annual salary net of taxes and social contributions, of a one-earner married couple with two children whose earnings have been set at USD 10 000 show that Brazil, Mexico, Colombia and Costa Rica have the region’s highest tax wedges at 32.2%, 28.1%, 27.9% and 27.1% of total labour costs, respectively. Only employees in Dominican Republic, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru and Trinidad and Tobago are required to pay personal income tax at this income level, while workers in Costa Rica are entitled to refunds. Compulsory social security contributions paid by the employee are highest in Chile, at 18.4% of total labour costs. By contrast, Mexican workers make the lowest social security contributions relative to their labour costs. At the same time, Chile has the lowest cost for employers with respect to social security contributions, while Brazil has the highest costs for

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<sup>7</sup> The authors, in a review of 52 empirical studies on the economic incidence of taxes on labour and social security contributions, find that over the long term workers bear from two-thirds of the tax burden in Europe and the United Kingdom to almost 90% in the Nordic countries. Nonetheless, despite a significant set of control variables (such as the collective bargaining model, the timeframe, the perception of government effectiveness, the level of the minimum wage and others), a substantial part of the variability in the empirical findings remains to be explained.

employers (25.5%). For the region as a whole, the largest proportion of the tax wedge is paid by employers (13.5 percentage points of the regional average tax wedge) in the region. Finally, cash transfers given in the region are relatively few. The data confirm that both burdens on wages increase the cost of labour, thereby perhaps stimulating informality. As can be seen, social security contributions are the factor with the greatest impact on high labour costs, accounting on average for 96% of the total tax wedge (Figure 4).

Figure 4. Tax wedge for a one-earner married couple with two children



Source: OECD/CIAT/IDB (2016).

## IV. REDISTRIBUTIVE POWER OF THE PERSONAL INCOME TAX

Numerous studies have assessed the redistributive effect of tax policy in Latin America. The first studies for the region (Barreix, Roca and Villela, 2006; Barreix, Bès and Roca, 2009; IDB, EuroSocial and IEF, 2010) assessed the net impact of tax policy and the public spending that the policy finances. These studies find that the personal income tax is very progressive, and that it is paid by very few. More recently, Lustig, Pessino and Scott (2013) have found that direct taxes and monetary transfers reduce inequality and poverty in Argentina, Brazil and Uruguay, to a lesser extent in Mexico, and relatively little in Bolivia and Peru. Furthermore, they find that direct taxes are progressive although their redistributive impact is insignificant given that direct tax revenue as a share of GDP is very low (Hanni, Martner and Podestá, 2015).

Table 12. What deciles pay the PIT in LAC (2013)

Deciles	1	2	3	4	5	6	7	8	9	10
Argentina <sup>a</sup>	0.6	1.1	1.9	3.4	4.8	6.0	7.9	10.9	16.3	47.1
Bolivia	0.0	0.0	0.1	0.2	0.4	0.7	2.5	7.5	14.8	73.9
Chile	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.5	2.3	96.9
Costa Rica	0.0	0.0	0.1	0.3	0.3	0.9	1.7	6.8	15.3	74.5
Honduras	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Ecuador <sup>a</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	4.4	95.1
Mexico	0.0	0.1	0.2	0.3	0.6	1.5	4.3	8.7	15.9	68.3
Paraguay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Peru	0.0	0.0	0.1	0.2	0.2	0.3	0.6	1.1	6.3	91.1
Dominican Republic <sup>a</sup>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	97.0
Uruguay	0.0	0.0	0.0	0.0	0.0	0.1	1.6	6.6	18.6	73.2
<b>Unweighted average</b>	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>0.4</b>	<b>0.6</b>	<b>0.9</b>	<b>1.7</b>	<b>3.9</b>	<b>8.8</b>	<b>83.4</b>

a. Revenue from PIT on wages only.

Source: Prepared by the authors on the basis of information provided by the tax administrations: AFIP in Argentina; Directorate of Taxes in Bolivia; DGH in Costa Rica; SRI in Ecuador; SAT in Mexico; SET in Paraguay; SUNAT in Peru; DGII in the Dominican Republic; DGI in Uruguay; and Jorrat (2010) for Chile. The data are for 2013 except for Argentina (2014) and Chile (2010).

On average the tenth decile pays 1.1% of GDP in PIT, this amount to 83.4% of revenues raised by personal income tax in the region (Table 12), while the observed effective rate of the PIT for this decile was 9.2% of labour income. The conclusion is that 10% of the taxpayers pay the vast majority of the tax at a small effective rate on their labour-income.<sup>8</sup> At the same time, in

<sup>8</sup> It should be noted that Tables 10 and 11 measure different things. Table 10 shows the average effective rates (PIT paid as a ratio of gross labour-income). Table 11 reflects the contribution by decile to the PIT revenue. Differences are explained by rounding, since not enough decimals are included in Table 10.

countries such as Argentina there is a more equitable distribution of income tax payment, and in countries such as Honduras, Paraguay, the Dominican Republic and Ecuador the tax falls entirely on individuals with the highest incomes in the tenth decile. Again, this illustrates the progressivity of the PIT but also points to its low revenue-raising features that have negligible effects in terms of redistribution.

**Table 13. Summary of findings of studies on the redistributive impact of the PIT in LAC**

Country	Year	Indices				
		Gini before taxes	Quasi-Gini of taxes	Kakwani	Gini after taxes	Reynolds-Smolensky
Argentina	2006	0.5133	0.8821	0.3688	0.5018	-0.0115
Brazil	2003	0.6180	0.9243	0.3063	0.6119	-0.0061
Chile	2006	0.5791	0.9677	0.3886	0.5584	-0.0207
Costa Rica	2004	0.5770	0.9098	0.3328	0.5692	-0.0078
Ecuador	2004	0.4080	0.8310	0.4230	0.4040	-0.0040
El Salvador	2006	0.5034	0.8281	0.3247	0.4947	-0.0087
Guatemala	2000	0.5957	0.9115	0.3158	0.5946	-0.0011
Honduras	2005	0.5697	0.9000	0.3303	0.5647	-0.0050
Nicaragua	2001	0.5963	0.9441	0.3478	0.5905	-0.0058
Panama	2003	0.6364	0.8803	0.2439	0.6312	-0.0052
Peru	2004	0.5350	0.5820	0.0470	0.5344	-0.0007
Dominican Republic	2004	0.5160	0.9057	0.3951	0.4759	-0.0347
Uruguay	2006	0.4995	0.8630	0.3635	0.4875	-0.0120
Venezuela	2004	0.4230	0.8400	0.4170	0.4210	-0.0020
<b>Unweighted average</b>		<b>0.5407</b>	<b>0.8693</b>	<b>0.3289</b>	<b>0.5314</b>	<b>-0.0090</b>

Source: Gómez-Sabañi, Jiménez and Rossignolo (2012); and Barreix, Garcimartín and Velayos (2013).

The PIT is progressive but a poor redistributor. The Kakwani index (Table 13) shows the progressivity of the personal income tax by comparing the distribution in the payment of the tax with the income distribution (the higher the value of this index, the greater the progressivity). The average Kakwani index for the region was 0.33%, which is even higher than the coefficient recorded by the OECD countries (Immervoll and Richardson, 2011). On the other hand, the Reynolds-Smolensky index, which measures the difference between the income distribution before and after payment of the PIT, and quantifies the extent to which inequality has been reduced as a result of the PIT, confirms that the redistributive capacity is very low for the region (the higher the value of this index, the greater the redistributive capacity), especially in comparison with the results for the OECD, whose Reynolds-Smolensky index is four times that of the region. On the basis of the studies and figures presented above, it can be concluded that current income tax designs have made it a very progressive tax that raises little revenue and has scant redistribution power.<sup>9</sup>

<sup>9</sup> To learn more about the paradox in the interpretation of indicators of progressivity and redistribution should see Díaz de Sarralde, Garcimartín and Ruiz-Huerta (2010).

## V. CONCLUSIONS

One of Latin America's main challenges is to eliminate distortions in the tax system and to ensure that income generated by economic activity can be distributed more equitably, thereby averting an excessive concentration of income and wealth. During the last 65 years, personal income tax, the tax that the developed countries have chosen to raise more revenue and improve income distribution, has been the lowest performing tax in terms of revenue generation within Latin America's tax systems. The PIT's yield must be improved. While structural factors, such as lower average per capita GDP in LAC (OECD economies' per capita income is more than three times that of LAC), directly affect the PIT's tax base, other factors diminishing the PIT's tax base should be addressed.

In LAC, revenue-raising capacity is constrained by generous standard tax reliefs and high tax allowances that on average exempt almost 90% of the population from tax obligations, and exempt 62% of the income obtained by taxpayers in the tenth decile. This has given rise to a personal income tax that is extremely progressive in nature, but that raises little revenue and, therefore, has little redistributive power.

Profound changes to the design of the PIT in the Latin American countries remain a pending issue. For example, countries should broaden the tax base by including non-labour income that is currently exempt or taxed at relatively low rates, such as capital income. The fiscal transparency initiatives of the OECD Global Forum on Exchange of Information for tax purposes are also particularly relevant. Lifting banking secrecy for tax purposes and ensuring the availability of ownership and accounting information together with Country by Country reporting (which identifies profits of international companies by country) not only improves prospects for revenue raising but also contribute to a more comprehensive, equitable and progressive design for the tax. This in turn would strengthen tax control, which should be improved as a matter of urgency.

A second matter requiring attention is the low effective rates that taxpayers face. The general structure of the PIT tax schedules and rates is limited by the enormous number of standard and non-standard personal deductions and income exemptions. Standard tax allowances are also extremely high; both these circumstances call for a review. Currently, they are too generous, not always justified or controlled, and affect the vertical and horizontal equity of the personal income tax.

Finally, social security contributions are high and raise labour costs, especially for employers, plausibly causing an anti-labour bias in the region. Since, the personal income tax is only paid at extremely high income levels, its relative importance is much less than social contributions. Given the importance of the PIT to foster labour market participation and promote progressivity and equity within the tax system, this tax would benefit from a comprehensive review to improve and take advantage of its revenue and redistributive capacities.

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