*Chapter 1*

The impact of fiscal policy on equity

Introduction

Inequality pose a critical challenge for government. In a broad sense, rising inequalities can not only harm economic growth and create social distress, but can also negatively affect access to opportunities and basic public services. To a greater or lesser extent, depending on the societal agreement, governments play a role in income redistribution through taxes and transfers. In this context, the efficiency and effectiveness of fiscal policy are essential to achieve more equal societies and fight poverty. In the case of Latin America and the Caribbean (LAC) this is particularly relevant as, despite recent improvements, the region is still the most unequal in the world. According to the latest available evidence, on average in 2012, inequality in LAC measured by the Gini coefficient after taxes and transfers is 70% higher than in OECD member countries, with scores of 0.49 and 0.29, respectively (see Figure 1.1).

Figure 1.1.   **Differences in income inequality pre and post government taxes and transfers.**
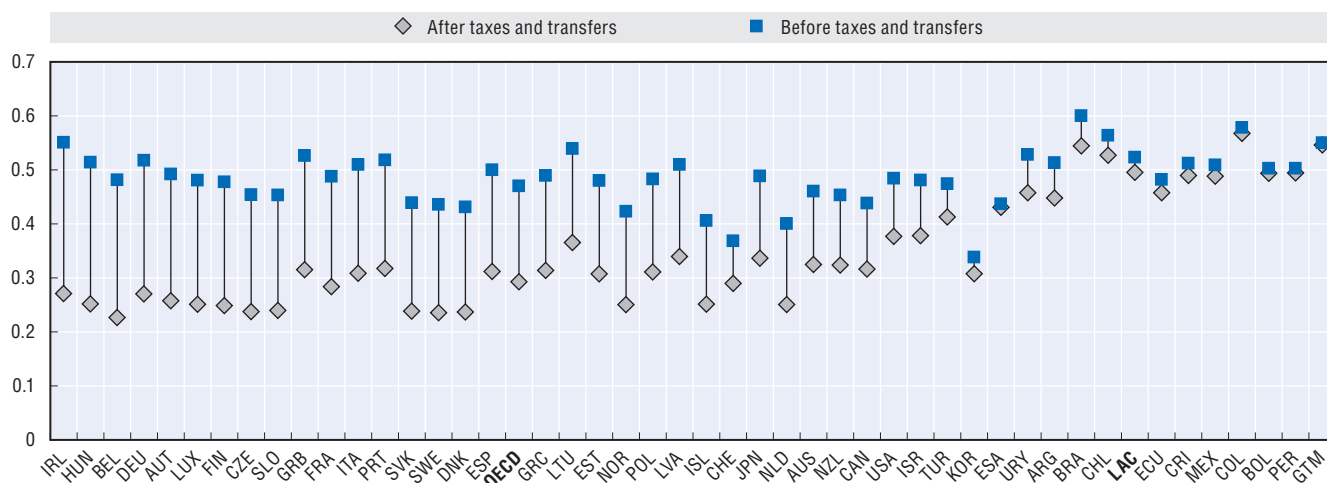
Sources: For OECD member countries: Income Distribution Database. For LAC countries: Lustig (2016).

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The Gini coefficient is the most commonly used measure of income inequality. It is aimed at representing the income distribution of the population within a given country. Many of the results put forward in this chapter are based on a body of recent evidence[1] that investigates the impact of taxation and social spending on income redistribution and poverty. In many aspects this is a unique exercise given that it builds on the best internationally comparable dataset on the subject in the region. The methodology has been consistently applied in 13 LAC countries, which represented 91% of total GDP of the region in 2015, and is based on microdata from household surveys that are publicly available. The key working definitions used in this chapter are presented in Box 1.1.

By analysing the new empirical evidence, this chapter aims to understand why fiscal policy in LAC falls behind more advanced economies in reducing inequality. It will also assess the potential to make fiscal policy more equalising and inclusive. Based on the availability of data, LAC countries will be compared to OECD[2] member countries or to 27[3] members of the European Union. While a large

> Box 1.1. **Different definitions of income used to calculate the Gini coefficient**
>
> ● Market income - sometimes called primary income - is total current income from market sources (*e.g.* wages, dividends, etc.) before taxes.
>
> ● Disposable income is equal to market income plus direct government transfers (mainly cash transfers, but this may include food transfers) less direct taxes and social security contributions.
>
> ● Discretionary or post-tax income is defined as disposable income plus indirect subsidies minus indirect taxes (*e.g.* value-added tax [VAT], sales tax, etc.).
>
> ● Final income is defined as discretionary income plus government transfers in kind in the form of free or subsidised services in health and education (Lustig and Higgins, 2013)[1, 2].
>
> 1. Notice that government expenditure in public housing and its associated urban development expenses, which are highly subsidised and are usually included as part of social expenditure, are not included in this approach.
> 2. See Appendix 1 for a graphical explanation of the different concepts of income used in this chapter, following Lustig and Higgins (2013) approach.

overlap between these groups exist, the OECD also includes major economies such as the United States, Canada, Japan, South Korea, Australia and New Zealand, etc. In many instances these countries have different governance models and smaller welfare states than most European countries.

Several channels exist through which fiscal policy could play a role in achieving equity. For instance, by creating equality in the access to opportunities that could generate social mobility and result in long term improvements of the income distribution. In turn, equality of opportunity could be promoted through social expenditure and investment on public infrastructure related to public services directed to all citizens or by promoting long-term growth and productive employment. By improving human capital, individuals could access more productive employment and earn higher salaries in the long term, particularly if economic policies in general and fiscal policies in particular create conditions for high and sustained growth.

Similarly, through social expenditure, fiscal policy could promote equality of opportunities by ensuring that all individuals can develop their potential without being limited or affected by factors that are beyond their control, like social, economic and family conditions. In this sense, easy access to high quality education and health, water and sanitation services is of essence for levelling the field, especially in the case of low-income groups that have to overcome a significant social gap or disadvantage.

In the following sections, this chapter will discuss differences between LAC and OECD or European countries that explain why through government intervention (i.e. fiscal policy) the latter manage to reduce inequality by half, while LAC countries by less than a fifth. In addition, it will also analyse the progressivity of the tax system, the size and composition of the budget and the allocation of social spending. Finally, it will explore the impact of fiscal policy on poverty, growth and productivity, and the possible trade-offs between these and equity.

How effective is fiscal policy in reducing inequality in LAC?

Fiscal policy can play an important role in increasing or reducing inequality through taxes (direct and indirect), direct government transfers, indirect subsidies and transfers in kind. In order to analyse their impact, the fiscal incidence method is used. It allocates the share of the tax burden, social spending and consumption subsidies to each individual in order to compare income and its distribution before and after fiscal policy. Further details about this method are presented in Box 1.2.

Figure 1.2 shows the Gini coefficients for different definitions of income, for LAC countries as compared to 27 European Union countries (EU-27). Although inequality before direct taxes, social

Box 1.2. **Methodological assumptions to estimate fiscal incidence**

When estimating the impact of taxation and social spending on income redistribution and poverty, the following assumptions have been made:

- There are no behavioural responses or reactions by economic agents to changes in fiscal policies incorporated in the model that is used. Therefore, it is not a general equilibrium approach, which would require a much higher degree of complexity and entail greater difficulties.

- As it is usual in most analyses of impacts of fiscal policies, direct taxes are assumed to be entirely borne by those who receive the income; social security contributions paid by workers and by employers are borne by workers; and the VAT and excise taxes are entirely borne by final consumers. Despite these strong assumptions that imply that the demand curves for those factors and goods and services are perfectly inelastic, other studies with different and more laborious assumptions produce similar results (Lustig 2016, Martinez-Vazquez, 2008).

- It is based on data available for one specific year for each country and consequently there is no intergenerational tax incidence analysis or a life cycle approach, like the one conducted by Auerbach, Kotlikoff and Koehler (2016), which would also imply important methodological and data challenges.

- The population was distributed across deciles based on market income and it is assumed that there is no mobility of the population among the ten different deciles as a consequence of fiscal policies. In other words, what changes as a result of the different fiscal policy decisions and instruments is the distribution of income among the deciles of the population but not the distribution of the population among deciles defined by market income. Finally, there are important implicit indirect subsidies, mostly on energy consumption (electricity, gas and gasoline) with significant equity impacts that could not be quantified under this methodology. However, the studies presented in Lustig (2016) are the most complete, consistent and exhaustive fiscal impact analyses conducted under the same methodology for this group of countries.

- Estimations under two different scenarios were run, depending on how we treated contributory pensions paid by governments: 1) as deferred income (for which they were added to market income); 2) as direct transfers (added as part of disposable income). In the first case, when considered as deferred income, their impact on equity is ex ante the impact of fiscal policy (measured by the Gini coefficient of market income), whereas in the second case they are accounted for the first round of fiscal impact analysis measured by the Gini coefficient of disposable income.

- There are reasons to think that in most LAC countries pension benefits paid by governments could be treated as direct transfers, as most of these systems are based on pay-as-you-go schemes with important actuarial deficits, which are in part covered by general public revenues (and probably future worker and employer contributions, with important intergenerational equity impacts). However, the analysis in this chapter is presented in both ways and the difference between their equity impacts is discussed, although most conclusions are based on the assumption that contributory pensions are direct transfers. Moreover, it is also important to note that the difference between the two approaches is significant only for 3 of the 13 countries included in the study, but still the policy issues involved are very important for equity consideration and therefore will be discussed.

contributions and direct transfers is not very different between the two groups, with these fiscal instruments, LAC just manages to reduce it by 5% (drop in the Gini index from 0.53 to 0.50). In contrast, the EU countries reduce inequality by more than 40% (drop in the Gini coefficient from 0.50 to 0.29).

Concerning contributory pensions, the results are mixed across countries, with an equalising effect for some and increasing inequality for others. On average for LAC, although contributory pensions decrease inequality, the impact is small, with the Gini coefficient just dropping by 0.01 points (from 0.53 to 0.52). However, contributory pensions are largely equalising in the EU-27, with the Gini index dropping from 0.48 to 0.37. When the in-kind transfers in education and health, valued at government costs, are considered, the reduction in inequality is somewhat larger in LAC countries (compared to other fiscal policies) though still significantly smaller than in EU countries (0.53 to 0.44 in LAC compared with 0.48 to 0.22 in EU). Once in-kind transfers are considered, inequality in all countries is reduced considerably more than by cash transfers, reflecting their relative size. (Lustig, Pessino and Scott, 2014).

Figure 1.2. **Gini coefficients: effect of fiscal policy on average income distribution for selected countries in LAC and EU-27, for 2012 simple average**

Source: Authors' elaboration based on Lustig and Pessino (2014), Lustig (2016), EUROMOD version G2.0, and OECD's Income Distribution Database.

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What is the incidence of taxes on equity?

The distributive effects of tax policies in LAC have been extensively evaluated. The first studies (Barreix *et al*., 2006 and 2009 and IDB, EuroSocial and IEF, 2010) assessed the net impact of tax policy and public expenditures on incomes in LAC. These studies found that *income taxes* are highly progressive and paid by only a few taxpayers. In addition, they demonstrated that the *VAT* can be either progressive or regressive depending on the method used to estimate it. On one hand, it is regressive when estimated on the basis of declared income. Conversely, its regressivity disappears when the estimation is based on the relative consumption of the various income groups and when the combined revenue-expenditure effect is examined. More recently, Lustig *et al.* (2013) found that direct taxes in the region are progressive, but that their redistributive impact is insignificant since direct tax collection as a percentage of GDP is very low.

One of the main reasons why the distributional effects of tax policies in LAC are limited could be the low weight that *direct taxes* (taxes on properties and personal income tax) have in total revenues in the region (see two-pager on general government tax revenues). In most LAC countries, revenue from real estate taxes are just one quarter or less compared to the amount of revenue produced by them in most OECD countries (Bonet *et al*., 2014). When total property taxes are compared among the two groups of countries, revenue from total property taxes accounts for 1.9% of GDP on average in the OECD countries, whereas in LAC countries they account for an average of just 0.3% of GDP.

In turn, the personal income tax (PIT) also plays a smaller role in LAC countries compared to OECD countries. In the first group, revenue collected from the PIT accounted on average for almost 2% of GDP, while in the second group it accounted for almost 9% of GDP by 2012. In fact, about 55% of the difference in average tax revenues collected between the two groups of countries (34% of GDP compared to 21%) is explained by the difference in revenues collected from the PIT. When the difference on property taxes collected is added to the difference on the PIT, two-thirds of the difference (67%) in total tax revenue collected between the two groups is explained. In other words, the relative importance of direct taxes play a significant role in explaining the limited effects of tax policy on equity[4], as can be seen in Figure 1.3.

Figure 1.3. **Breakdown of tax revenues as percentage of total taxation, 2007 and 2014**
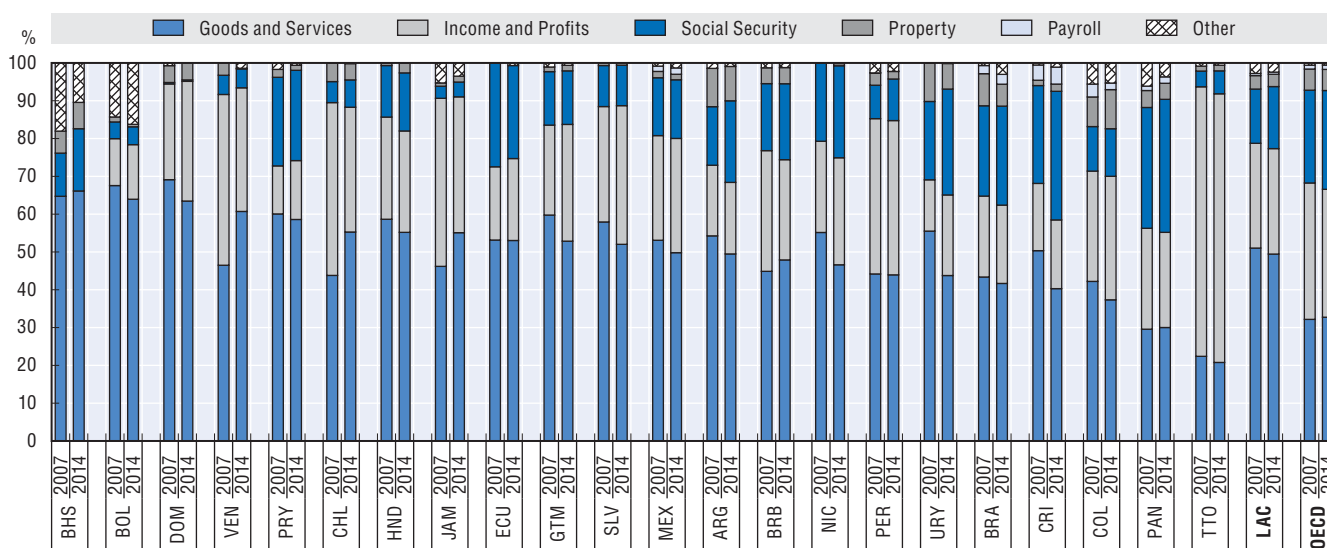
Source: OECD (2016), Revenue Statistics in Latin America Database.

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In addition, tax systems in LAC are affected by high *tax expenditures*, which in general make the systems less efficient and more regressive. Tax expenditures are defined as the revenues forgone by the state when it grants incentives or benefits that reduce the tax burden for certain taxpayers (Villela, Lemgruber, and Jorrat, 2009 and Pecho, 2014). In the five-year period of 2008-2012, tax revenues forgone for this reason in Latin American countries averaged 4.3% of GDP. For a region that in 2014 collected on average 21.7% of GDP, the tax expenditures are high (23% of regional average tax collection), particularly considering extreme cases such as Guatemala, where forgone taxes total more than 50% of tax revenues.

Furthermore, on average, half of tax expenditure in LAC countries benefit private sector businesses through incentives supposedly aimed at promoting investment, protecting exports and develop "infant" industries. Beyond the horizontal inequities that those incentives might create with other private sector activities, the impact on income distribution and equity is extremely difficult to determine and quantify, going beyond the purpose of this chapter.

Likewise, on average another half of tax expenditures in the region are justified in terms of social benefits for the low-income groups, through tax exceptions and zero-rated goods and services under the VAT. However, given that those tax expenditures benefit all consumers regardless of their income level, many could end up benefiting the higher-income groups of the population (Pecho 2014 and FIEL 2015).

Furthermore, in LAC countries personal income tax deductions (approximately 1.6% of GDP) on mortgage interest payments, private education expenses for children of a certain age, medical

expenses and other expenses only benefit higher-income population groups. This pattern results in a highly regressive form of tax expenditure thus affecting equity. Similarly, tax exemptions in the form of reduced or differential VAT rates aimed at enhancing the progressivity of this tax result in regressive tax expenditure because of targeting or inclusion errors (Barreix *et al.*, 2009).

In general, as a percentage of total expenditures by income groups, most tax expenditures on the VAT seem to be progressive, as the amount of VAT paid is smaller for poorer groups where there is greater consumption of excluded goods. However, the amount of resources in monetary terms saved by each income group is clearly regressive, as it increases with the level of income and relative capacity to consume excluded goods. Similar results were found for OECD countries (OECD and KIPF, 2014) and LAC countries (FIEL, 2015).

The results show that the impact on equity could be significantly improved by eliminating these types of tax expenditures such as tax exemptions or reduced tax rates for the VAT for certain type of products and services. The extra revenue that could be obtained from this policy change could be used to finance a well-targeted direct transfer to lower income groups to compensate them for the benefit lost. The average cost in the LAC region for tax expenditures in the VAT is about 2% of GDP (FIEL, 2010). Therefore, the impact on equity could be significant, as it would be argued below.

The equity impact of *indirect taxes (VAT and excise taxes)* tends to be regressive when the analysis is measured as a percentage of market income. In the LAC-13 group, excise taxes are regressive in almost all countries. The case of the VAT is much more debatable, as this tax accounts for about 30% of total revenue and many social expenditures that reduce inequality are financed with revenues produced by the VAT.

In addition, there are conceptual and methodological considerations. First, current revenue is not the best proxy for life cycle income, a reason why some authors suggest that consumption is a much better fit for permanent income. When the VAT collected is measured by deciles of the population distributed by consumption and not by current income, the degree of inequality is reduced significantly. In fact, the implicit tax rate against consumption becomes positive, neutral or even progressive. Another important approach is to measure the percentage contribution of each decile to the total amount of revenue collected from the VAT. In this case the tax would be progressive, as the size of the contribution increases, the higher the deciles.

As mentioned above, the positive distributive effect of the VAT (or any indirect tax for the matter) is much clearer when the aggregate effect is also taken into account, as revenues collected from it could finance expenses that are progressive or are final income equalisers. This equity effect is known as the Lambert's Conundrum. For an example about the conundrum please see Appendix 2 of this chapter.

For the LAC-13 group, the Lambert's Conundrum was detected only in Chile at the level of consumable income. However, when the expenses in education and health are added at the cost of producing them, the Lambert's Conundrum was clearly detected in Brazil, El Salvador, Uruguay and Bolivia, in addition to Chile. However, in almost all countries with the exception of Colombia, indirect taxes were found to be either equalising income or progressive when the income distribution changes from market income to disposable income or consumable income.[5]

Finally, *public revenues from non-renewable natural resources* (NRNR) play a significant role in several LAC countries, despite the high volatility that resulted in a price plunge in recent years. According to the latest available data, in 2014, they reached on average 5.5% of GDP (see Figure 1.4), mainly through the *corporate income tax* (CIT) and *royalty payments* (see two-pager on fiscal revenues from non-renewable natural resources). However, as those sources of revenues do not come from taxes on dividends and capital income of individuals or households (except for labour income of workers and managers who work in those sectors), their direct impact on equity is very limited.[6]

Figure 1.4. **Fiscal revenues from non-renewable natural resources as a percentage of GDP, 2013 and 2014**
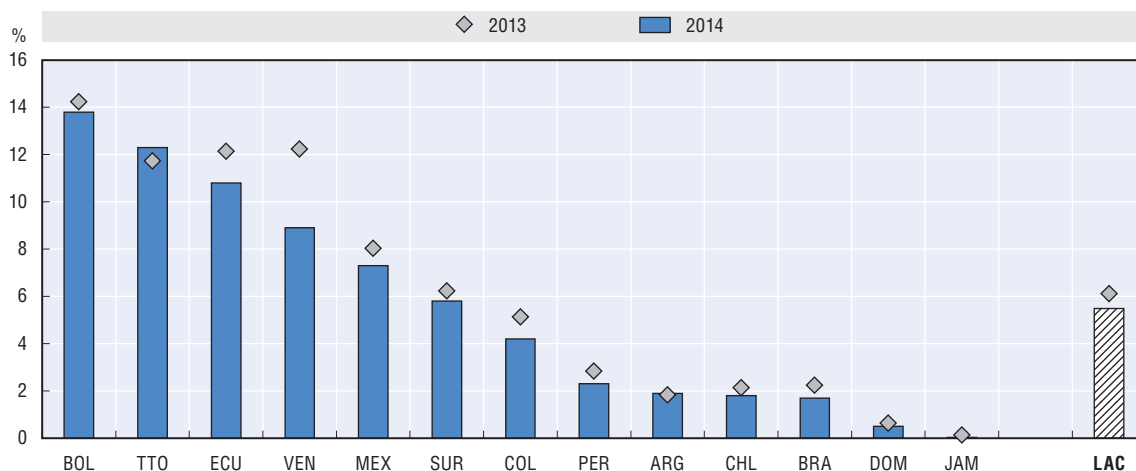
Source: OECD/ECLAC/CIAT/IDB (2016) based on ECLAC data.

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In fact, revenue from the CIT as a percent of GDP is almost the same between the OECD countries and LAC countries. However, CIT revenue increased significantly between 2003 and 2013 in most LAC countries, in part because of the commodity price boom in those years, which explains in part why revenues collected from this tax are similar in both groups. However, CIT and royalty revenues from NRNR do not generate an equity impact in moving from market income to disposable income, except for direct transfers that could be financed from these sources of revenue. Therefore, revenues from NRNR have only a very small equity effect in reducing the Gini coefficient (except for direct transfers), as the sources of those revenues are mainly state-owned enterprises and rarely private companies with local or external stockholders. However, the impact on equity could be very important through social expenditure, which in turn is financed, among other sources, by revenues from NRNR.

In conclusion, the limited distributional impacts of direct taxes in LAC countries are explained by a combination of factors: the much lower tax burden on high-income groups through direct taxes (mainly the income tax and property taxes); the high level of tax benefits that are mostly beneficial to higher income groups; and the significant role play by NRNR, which have limited direct effects if any in reducing the Gini coefficient through direct taxation to individuals and households (although they are important as a source of revenue to cover social expenditure that mostly benefits lower-income groups). Finally, indirect taxes, although regressive when measured against market income, are progressive in almost all LAC-13 countries when taking into account the social programmes and the in-kind transfers financed by these taxes (*e.g.* when moving from market income to final income). This is more so for the VAT, as it is the most important tax that finances social expenditure in the region.

Is public expenditure policy the answer?

Due to the limited impact of tax policy on equity for the reasons explained in the previous paragraphs, as well as the bias of the tax systems against labour (due to a high tax wedge on labour), expenditure policies in LAC are more effective in reducing inequality than progressivity policies in the tax system. In fact, the limited effect of direct taxes on the Gini coefficient for disposable income (see Figure 1.1) shows that the nature of the tax system could induce changes in the taxpayer behaviour leading to an increase in the market income Gini and therefore offsetting the progressive effects of taxes on the Gini of disposable income (Poterba, 2007). However, once social spending is

brought into the picture through in-kind transfer (*e.g.* education and health services), fiscal policy as a whole has a positive effect on income distribution.

These results support the findings of other studies in the literature, which suggest the existence of a stronger effect on redistribution through public spending policies when compared to increasing the progressivity of the tax system. This fact also partly explains the difference in inequality between European countries and the United States: while the latter has one of the world's most progressive income tax systems, it exerts little distributive power through expenditures. By contrast, European countries on average rely much more on spending policy to reduce inequality (Doerrenberg and Peichl, 2014).

There is a great deal of heterogeneity in the LAC region with regards to the redistribution potential. In some countries, governments' capacity to redistribute via expenditures is high, similar to the levels found in OECD countries, while in others it is lower. Nevertheless, most countries in the region have not exploited yet the full potential of expenditure policy, especially when compared to advanced economies. There are several reasons for explaining the difference in the effectiveness of expenditure policy in LAC countries as compared to OECD countries: on the one hand, the size and composition of the budget; on the other hand, the adequate allocation of equalising spending, such as subsidies and transfers, and in-kind spending on education and health.

The low level of social spending in the region does not explain it all

The distributive impact of expenditure size and composition is crucial, especially social spending, which includes direct transfers, contributory and non-contributory pensions, as well as expenditures on education and health. Social spending is just 15% of GDP in LAC countries, 60% lower than the OECD average. A composition analysis of social spending in Latin America and the Caribbean indicates that education spending accounts on average for 4.6% of GDP (5.3% in the OECD) and health spending for 4% of GDP (6.2% in the OECD), although with significant differences among the various countries in the region (see Figures 1.5 and 1.6). With regards to contributory pensions, the average spending is 3.8% of GDP, less than half of the average of the OECD, and with respect to direct transfers, just 1.7% of GDP, barely more than a third of the OECD average (Lustig *et al.*, 2013; Lustig, 2016).
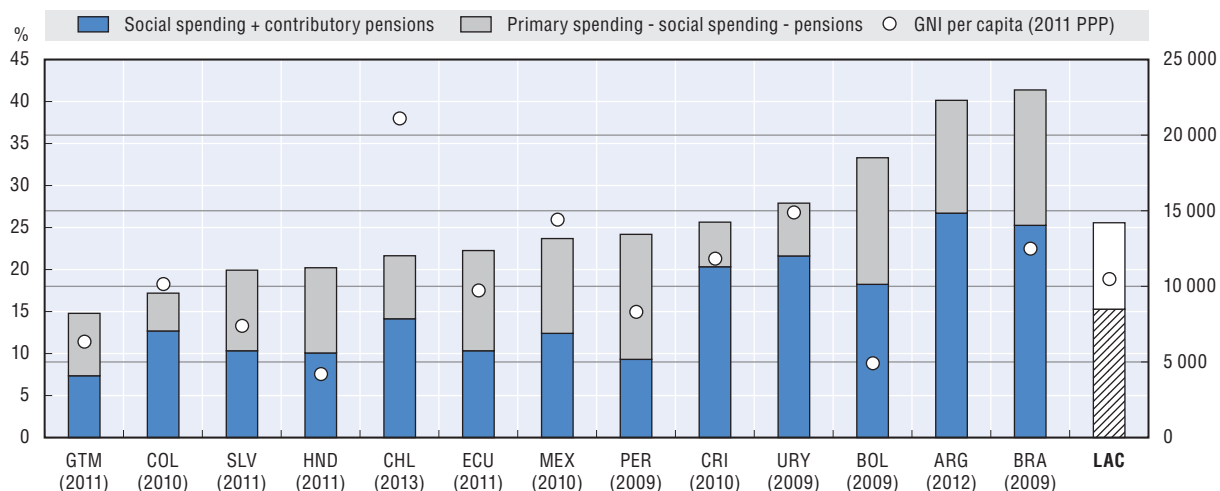
The low spending level could partially explain the differences in the redistributive impact between LAC and more developed countries, but it is not the only relevant factor. It is true that those countries that achieve the highest reduction in inequality in the LAC region (between 9% and 14%) are those with the highest social spending, such as Brazil, Argentina, Uruguay and Costa Rica[7]. However, taxes and direct transfers decrease inequality in LAC countries, on average by only 5% compared to OECD countries where the average reduction is 40%.

Although there are countries in LAC whose level of spending on pensions is similar to the average of OECD member countries as a percentage of GDP, their redistributive effect remains small. As such, while 19% of the difference in Gini coefficients between OECD and LAC countries could be explained by the redistributive effect of pensions, 81% of the difference is due to fiscal policy. This result has recently been recognised in the literature (Goni *et al.* (2011), IMF (2015), Lustig (2016) and Lustig *et al.* (2013) and (2014) also indicating that under the assumption that fiscal policy is carried out in a responsible way it is also highly inefficient and insufficient to equalise income in Latin America.

Figure 1.7 shows the total combined impact of fiscal policy on inequality, by moving from market income to final income. The first panel (Panel a) was calculated with contributory pensions considered as deferred income, while the second (Panel b) was calculated by including them as direct transfers.

The countries with the lowest reduction of inequality produced by fiscal policy are Honduras, El Salvador, Guatemala, Honduras and Peru, precisely the countries with the lowest level of social

Figure 1.5. **Social and primary expenditures in selected LAC countries**
(% of GDP)
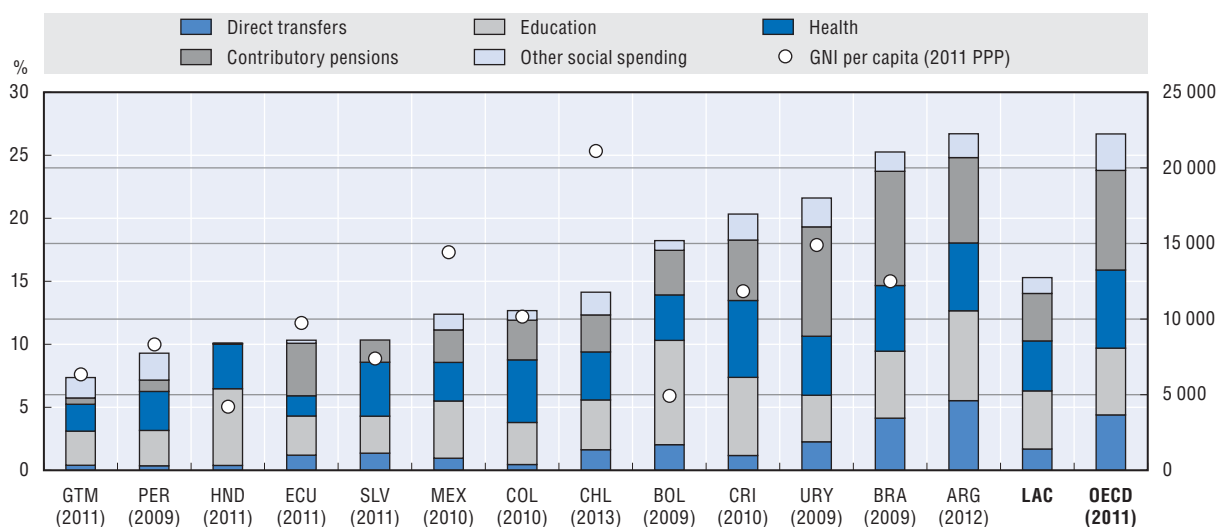
Figure 1.6. **Social expenditure composition, selected LAC countries and OECD average**
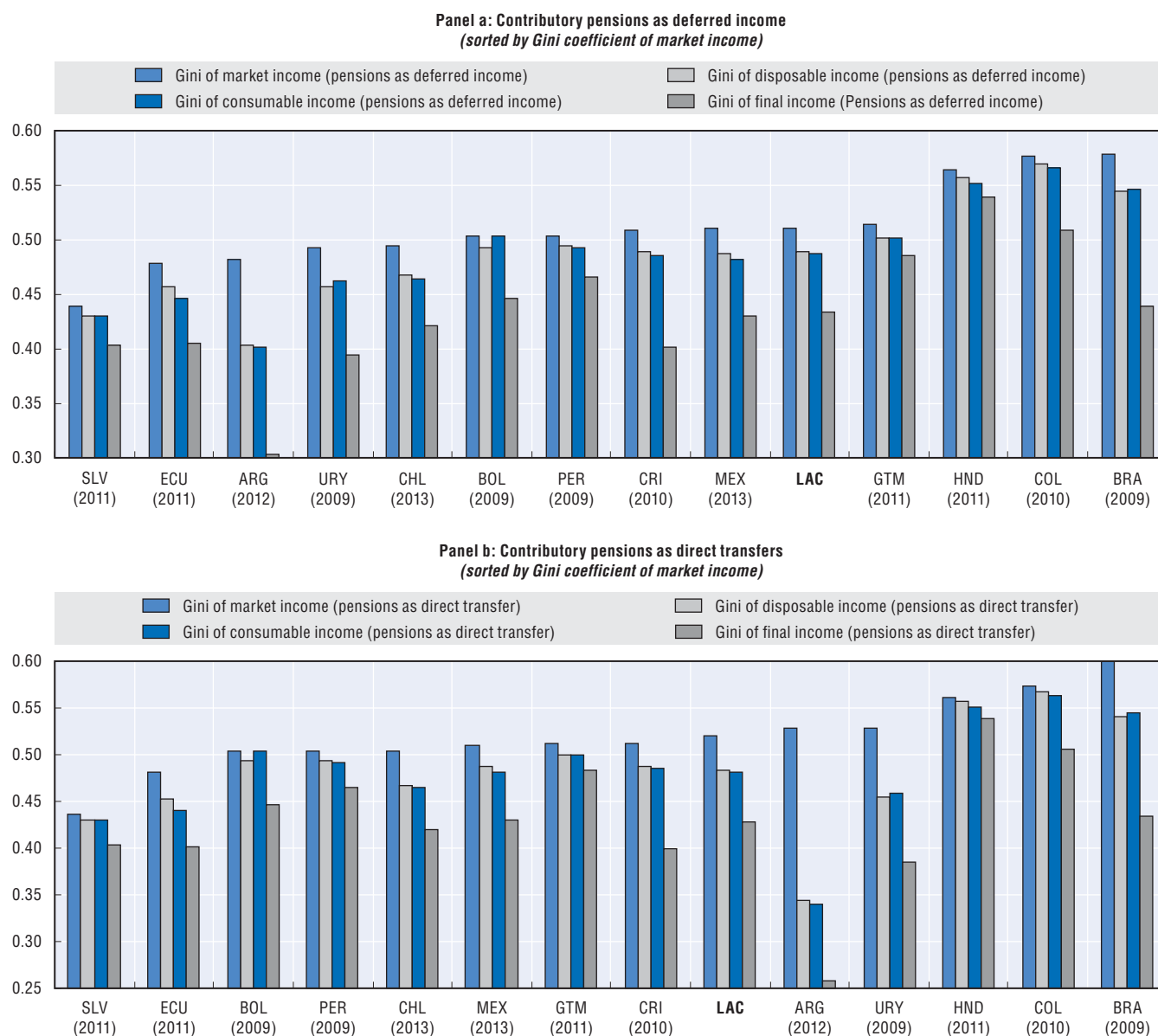(% of GDP, 2010)

expenditure as percentage of GDP. However, Ecuador, which has a level of social expenditure very similar to Honduras, El Salvador and Peru, is more effective in reducing inequality.

As expected, inequality is lower at market income when contributory pensions are considered as deferred income and it worsens when they are included in disposable income as direct transfers. However, for the same reason fiscal policy is more progressive in the second case, because the impact is measured after a fiscal policy intervention. However, the impacts are relatively small and much less than the impact of contributory pensions in reducing inequality in OECD countries. One of the reasons is that labour informality is very high in most of the LAC region and those workers do not have access to the benefits of the social security system, including pensions.

The impact of fiscal policy interventions in moving from disposable to consumable income is almost neutral in most countries, with the exception of Bolivia and Uruguay to some extent. As

Figure 1.7. **Gini coefficient of market, disposable, consumable and final income, 2010**

Panel a: Contributory pensions as deferred income
(sorted by Gini coefficient of market income)

Panel b: Contributory pensions as direct transfers
(sorted by Gini coefficient of market income)

Source: Lustig (2016).

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mentioned before, indirect taxes do not seem to have the expected regressive impacts as would have been predicted by the conventional wisdom, given the strong weight of the VAT in the fiscal revenue structure of LAC countries. In fact, in some countries inequality is reduced although for a small margin, confirming the previous comment on the Lambert's Conundrum. The largest impact of fiscal policy in reducing inequality in all countries of the region happens when the cost of producing in kind goods and services (e.g. social expenditure) is added to determine final income.

As mentioned before, despite the fact that fiscal policy reduces inequality in the region when all the interventions are taken into the analysis, the size of the impact is much lower than the average size of the impact obtained by OECD countries (see Figure 1.2). The following sections will explore the different kinds of social spending and why they fail to achieve a higher level of redistribution.

Transfers, subsidies and pension expenditure: missing the target

One of the key challenges of expenditure policy is guaranteeing that subsidies and transfers reach the poorest segments of the population. However, as will be argued below, in the LAC region there are deficiencies in subsidy and transfer targeting. Conditional cash transfers (CCTs) and non-contributory pensions (NCPs) are key initiatives to reduce poverty in the LAC region. Nevertheless, the number of beneficiaries from these programmes exceeds the number of extreme poor by an average of almost 2.5 times. More precisely, 39.2% of conditional cash transfers (CCTs) beneficiaries and 48.6% of non-contributory pensions (NCPs) beneficiaries are non-poor (Robles, Rubio and Stampini, 2015). Paradoxically, and according to 2013 data, coverage of CCTs and NCPs for the poor is only 50.6% and 53%, respectively. The potential savings from these leakages is estimated at 0.7% of GDP, which is almost half of the current level of spending devoted to these categories.

A particular case is implicit energy subsidies. In several countries, propane gas, diesel and electricity subsidies benefit the higher-income population segments, with decile 10 receiving one quarter of all the benefits and the poorest decile receiving only 5%. In other words, in these countries, the high-income population receives five times more subsidies than the poor (Llerena *et al.*, 2015; Paz-Arauco *et al.*, 2014). These subsidies are distortionary, since they are extended to the entire population through the final sales price of the subsidised products, regardless of the consumers' income level. Thus, price-based subsidies generate a high fiscal cost and result in a loss of economic efficiency. They are implicit as they are embedded in the price difference between the cost of producing those goods or services at the long-term marginal cost or the opportunity cost of exporting them, and the final sales price to consumers.

The amounts of these energy subsidies are not explicitly included in the budget, and consequently they have to be calculated outside the budgetary envelope of public expenditure. Reversing this double loss (the high fiscal cost of the subsidies and its significant regressive impact) requires substantially replacing this type of subsidy scheme for targeted transfers that benefit only the low-income population for loss of income; in turn this would reduce the subsidy's fiscal costs while also enhancing its impact on equity.

Some countries in LAC spend five to ten times more on regressive subsidies of this type than on CCTs, that are predominantly progressive and have positive impacts in reducing poverty. This means that it is possible to transfer part of the savings on subsidies to other, more progressive social programmes and even generate savings (Arze del Granado, *et al.*, 2012; IDB, 2014 and; IDB, 2015a and 2015b).

In-kind spending: room for improving efficiency and quality

Although spending on education and health is mostly progressive, the concern for Latin America and the Caribbean is that progressivity is being seriously undermined by the expenditures' inefficiencies. Commonly the middle-income and wealthy sectors of the population choose to use private health and education services, while the low-income sectors are serviced by the public sector. For example, 27% of the population in Brazil purchases voluntary private health insurance and 19% of the population in Chile buys compulsory private insurance (see two-pager on health financing systems and budget formulation for health). However, while spending on primary and secondary education, regardless of its perverse effects stemming from the quality of service, is aimed at or actually benefits the poorest sectors, spending on tertiary education does not similarly target these sectors since it is aimed at or benefits primarily the middle- and high-income population and therefore has negative impacts on redistribution (see Education and Early Childhood Development SFD; IDB, 2013; and Fiscal Policy and Management SFD; IDB, 2015).

Figures 1.8 and 1.9 show the human opportunity index (HOI) calculated by the World Bank (2012) for a sample of eight OECD countries and eight LAC countries using the PISA test scores adjusted by

Figure 1.8. **Human Opportunity Index: Reading tests from PISA (2012)**

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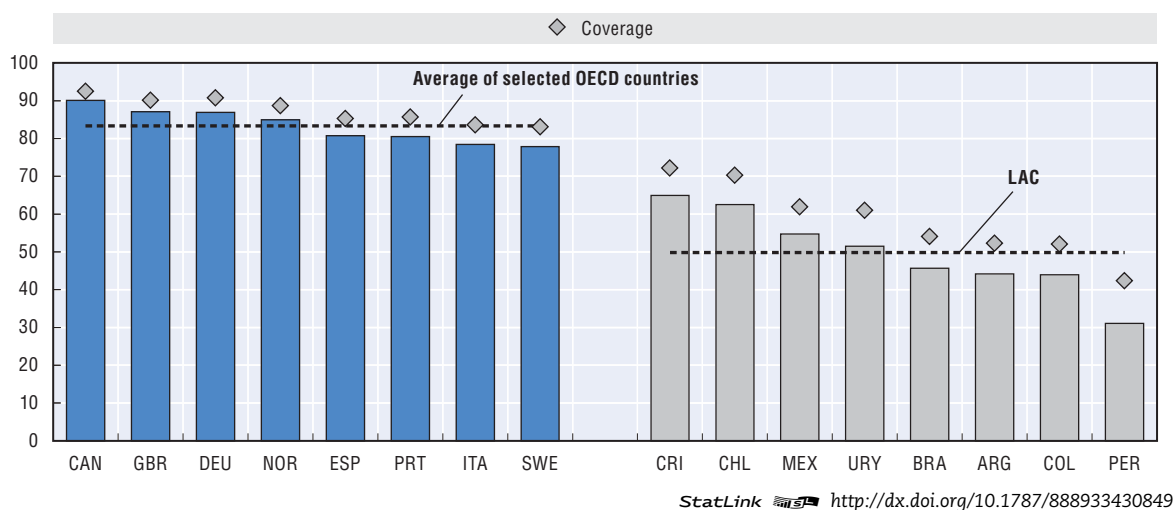
Figure 1.9. **Human Opportunity Index: Mathematics Tests from PISA (2012)**
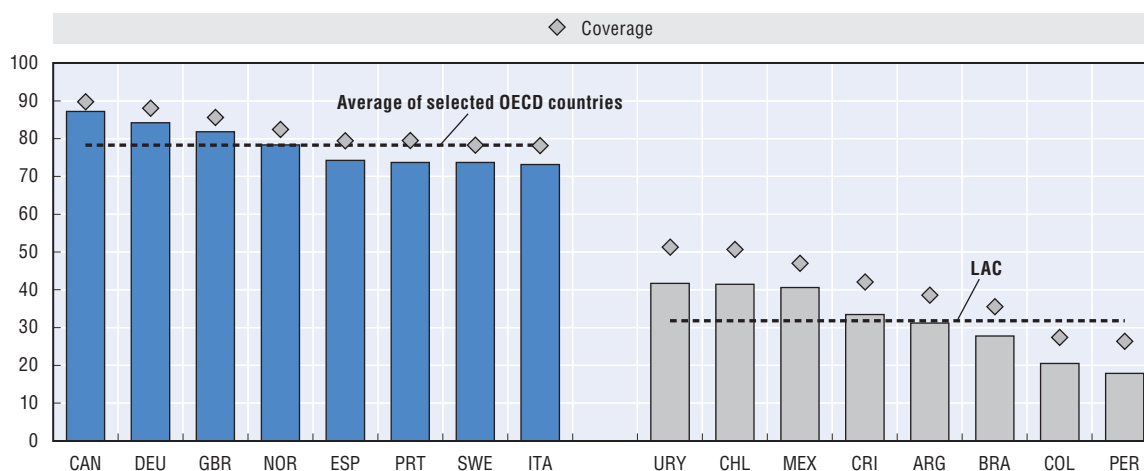
Source: World Bank. Coverage reports percentage of students with score 2 or 3 on the PISA test. (A score of proficiency level 2 is considered the minimum to successfully apply the material). HOI adjusts coverage for equity.

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personal circumstances (e.g. birthplace, wealth, race, gender) for reading and mathematics. A detailed explanation of the index and adjustment are provided in Box 1.3. According to the evidence the highest scores in the LAC region are far below the lowest scores in the OECD countries. The results also show the lower the income level of the population, the lower the scores. This raises concerns about the quality of public education, since most low-income families attend public schools. The percentage of students that achieve a proficiency level (coverage) is also much lower in LAC countries, mostly affecting the lowest-income families.

Finally, public expenditure on health in LAC countries is fragmented, in terms of both service delivery and financing. The population covered by each of the different schemes varies greatly across countries and therefore not all sectors of the population can have equal access to a common basket of health services. The most notorious difference is in terms of sources of financing and the basket of health services provided between the social security systems with compulsory contribution from workers and employers, which basically covers formal workers, and the public system funded through the budget, which is mostly directed to the general population, particularly in the informal

Box 1.3. **World Bank Human Opportunity Index (HOI)**

The HOI calculates how personal circumstances (like birthplace, wealth, race or gender) impact a child's probability of accessing the services that are necessary to succeed in life, like timely education, running water or connection to electricity. Therefore, HOI measures the coverage rate of an opportunity, discounted by inequality in its distribution across circumstances groups, in order to level the playing field so that personal characteristics that are beyond an individual's control are not considered.

HOI = (1-D)*C

where:

(1-D): effect of inequality on coverage

C: Overall coverage, therefore the percentage of citizens who have access to the opportunity.

To estimate the HOI for quality education is it possible to use data on educational achievement, in particular the OECD Programme for International Student Assessment (PISA).

PISA is a triennial survey of the knowledge and skills of 15-year-old students. Students are tested in reading, mathematics and science. Students are then positioned in different proficiency groups according to the difficulty of tasks that they can complete. There are six groups for reading, mathematics and science. Students who are below level 1 do not have the skills to enter the labour market. Level 2 is the threshold: PISA considers that the students at this level start demonstrating competencies necessary to participate effectively and productively in life as students. The levels 5 and 6 (and 7 in the case of mathematics and science) are the highest levels of proficiency, and the students who reach such levels are considered to be world-class.

sector. The fragmentation of the system creates difficulties for improving expenditure efficiency and equity in the basket of services provided (see two-pagers on health budgeting).

What about poverty reduction?

An aspect that should not be overlooked is the impact of fiscal policy on poverty. Sometimes the impact of a progressive system on inequality and poverty can go in the wrong direction. It would not be desirable to create a more progressive system that increases poverty (Lustig, 2016). For the purpose of the analysis, we consider contributory pensions as direct transfers.
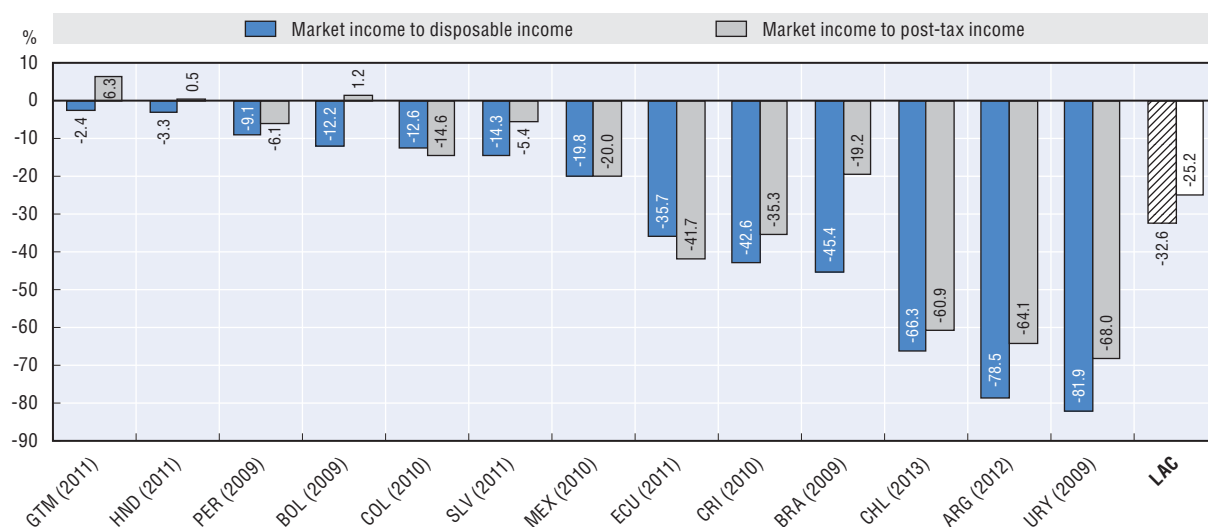
As depicted in Figure 1.10, although direct taxes, social contributions and cash transfers reduce poverty rates in the 13 countries analysed, it is not the case of indirect subsidies and indirect taxes. After accounting for these, poverty rates are reduced in ten countries, whereas increased in the other three.

Final income cannot be analysed, since it cannot be compared with the existing poverty lines: these do not account for the minimum income required to purchase basic health and education services at government costs (Lustig, 2016). Even though it is possible to argue that the poorest might be compensated by these services, which they receive for free, their level of consumption of food and other basic goods could still be below the minimum acceptable level (Lustig, 2016).

To assess the redistributive impact of the fiscal system, it is also illustrative to see whether the poor are net payers or net beneficiaries. As can be seen in Figure 1.11, in three (Peru, Guatemala, El Salvador) out of twelve countries they are net payers to the system starting from the second decile, and in an additional country (Bolivia) from the third decile.

According to the baseline scenario (contributory pensions treated as deferred income) Ecuador is the LAC country with the largest group of net beneficiaries (up to the sixth decile) followed by Mexico (up to the fourth decile) and Brazil (up to the third decile). In Peru, Guatemala, El Salvador, Costa Rica
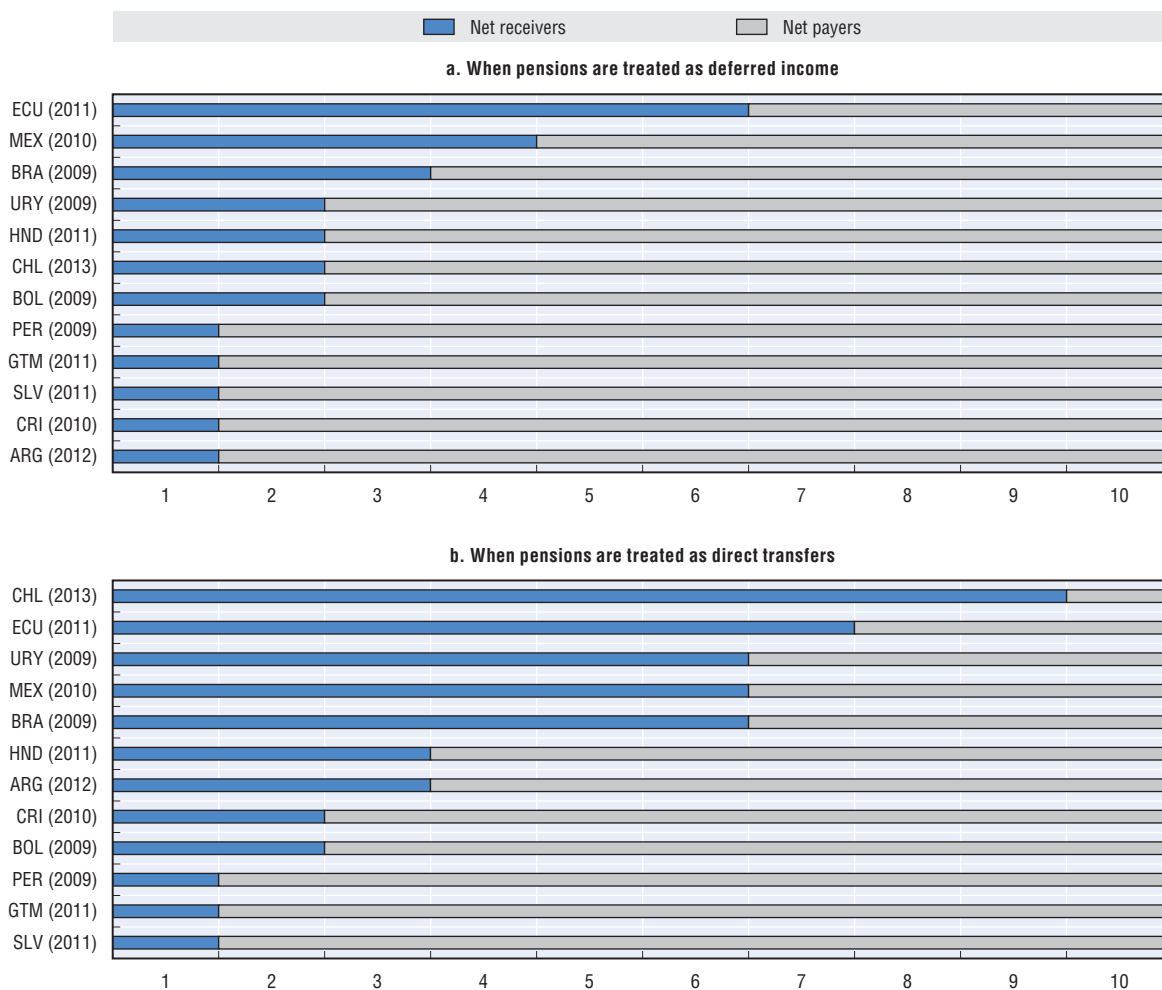
Figure 1.10. **Changes in poverty after direct taxes, social contributions and cash transfers**

Market income to disposable income   Market income to post-tax income

Figure 1.11. **Net beneficiaries and net payers in the fiscal system (2010)**

Net receivers   Net payers

a. When pensions are treated as deferred income

b. When pensions are treated as direct transfers

and Argentina the poverty reduction impact is smaller as net payers to the system start on the second decile.

However, when contributory pensions are considered as direct transfers the picture changes substantially, in particular Chile (net payers from the ninth decile), Brazil (net payers from the sixth decile) Mexico (net payers from the sixth decile) and Argentina (net payers from the third decile) have a higher share of net beneficiaries. Contributory pension systems could have important redistributive effects for two reasons: most systems include tax-financed subsidies (including guarantee of minimum pension) and even in the absence of such subsidies, all contributive pensions systems inevitably entail redistribution among the pool of contributors-beneficiaries.

When looking at the distribution by income groups, for half of the countries in the sample, the group of so-called "vulnerable" (with an income of between USD4 and USD10 PPP) are net payers to the system. For an additional four countries, net payers start in the group of income between USD2.5 and USD4 PPP a day (moderate poor), and in one country in the income group receiving between USD1.25 and USD2.5 PPP a day. This data suggests there are many individuals with low and very low income, for which the transfers system is not generous enough, either because of the size of the transfer or the lack of coverage (Lustig 2016).

The trade-offs between equity and its relation to economic efficiency and productivity

Equity, efficiency and productivity are all desirable objectives of fiscal policy. Although it is possible to design policies that promote them all, this can be a challenging task, since sometimes there can be trade-offs between them. For instance, redistributive policies such as progressive taxes or cash transfers can reduce the incentives to work in the formal sector or to save and invest in physical and human capital. Also, although a change in taxes or expenditures is likely to have a direct (first-round) distributive effect, when the behavioural disincentive (second round) is taken into account, the result could be an opposite effect possibly counteracting the initial positive impact. Indeed, the dynamics among poverty, equity, efficiency and fiscal sustainability may constitute one of the most important challenges for the region's economic development.

For instance, the excessive tax burden on formal employment in LAC is not only unequalising but also distortionary. According to the latest available evidence, in 2013 the estimated amounts of tax and social contributions paid on labour by the average worker in LAC reached 21.7% (OECD/CIAT/IDB 2016). High costs of formal labour could create perverse incentive to operate in the informal sector. This not only damages tax collections but, given the low proportion of productive capital in the informal sector and the limited size of informal enterprises or firms, damages productivity as well.

Since these workers are excluded from the formal security systems in the region, inequality is exacerbated even more. Indeed, sometimes market income inequality is the product of possibly well-intentioned policies that nevertheless distort the allocation of resources while also preventing inclusiveness. For example, social security programmes, which provide health and pension coverage in old age, were originally implemented only for formal employees (Kaplan and Levy, 2013). The lack of social security coverage for workers in the informal sector and the high tax evasion rates have generated pressure for coverage through special or parallel social security regimes, competing with the contributory pillars and becoming de facto subsidies to the informal sector (Levy, 2015). Although these parallel programmes manage to reduce inequality to some extent, they are not fully inclusive either: their benefits are low in comparison to social security systems for formal workers and they do not include unemployment insurance, workplace accident or disability coverage.

The vicious circle between equality and productivity does not end there, since the existence of these parallel programmes also create incentives for businesses and workers to continue operating in the informal sector (IDB, 2010; Busso *et al.*, 2012), further decreasing productivity and enhancing

inequality. In addition, and as discussed in section 4.2 this prevents more of the expected benefits of CCTs from being captured.

In sum, these circumstances limit the growth of productivity and real income of informal workers, unfairly discriminate against them in terms of social security coverage and quality, prevent breaking the vicious circle of informality and poverty for which CCTs were designed, and put significant pressure on fiscal sustainability (Levy, 2015).

Finally, it is also key to consider fiscal constraints and their possible effects on policies geared at achieving equity. For example, as mentioned above, of the four countries that register the highest levels of social expenditures (Argentina, Brazil and Uruguay) and the largest fiscal impact in reducing inequality, three of them are facing serious fiscal difficulties and sustainability problems which in the medium and long term could reverse partially or significantly those gains when fiscal consolidation efforts become unavoidable. Although not included in the LAC-13 group, a much difficult situation is faced by Venezuela, as the level of social expenditure and generalised subsidies, particularly for energy consumption, became unsustainable after the fall in the price of oil. Therefore, the fiscal impacts on reducing inequality require also a detailed consideration of fiscal sustainability that goes beyond the short term, as the gains that could be obtained during a few years under favourable economic circumstances could be fully or partially reversed under unfavourable conditions with more lasting negative impacts.

How to reduce inequality and poverty while sustaining efficiency

To reach a growth target with equity, countries can design inclusive fiscal policies that seek to balance the two objectives, since fiscal actions will only on limited occasions lead to simultaneous improvements in growth and equity. To meet the equity objective, beyond ensuring macroeconomic stability (a fundamental requirement for both growth and equity), governments could reduce the most critical poverty and inequality by means of transfers and taxes, and provide equality of opportunity through an improvement of human capital that would enable citizens to access more productive jobs, and therefore better remuneration by delivering quality services such as education, health, and water and sanitation. In this regard, governments could use the equity policy itself to balance two objectives that can conflict with one another or that frequently involve significant trade-offs.

The management of fiscal policy, as well as social and labour policies, should focus on: increasing the savings rate in order to achieve greater investment efforts and improve the quality and value for money of public infrastructure projects through cost-benefit analysis (see two-pager on cost-benefit analysis of investment projects); enhancing the efficiency of the public infrastructure investment process in order to create long-term economic growth and societal well-being (see two-pager on government investment spending); improving the quality of health and education services for the more disadvantaged sectors, creating a true equality of opportunity; and strengthening the systematic governance framework through procedures and institutions by which governments develop, implement and evaluate regulations (see two-pager on general trends and institutional setting).

Conclusions

This chapter presented comparative evidence on the redistributive effects of fiscal systems in the LAC region. To a certain extent this evidence goes against the common premise assuming that governments in the region have a very limited role on income redistribution. While this is certainly true for market, disposable and discretionary incomes the picture changes when final income (considering in-kind transfers) is considered. In particular, the inclusion of transfers in education and health, valued at government cost, within the income definition results in a higher reduction of income inequality through government intervention than the one achieved when only cash transfers

are considered. This broader definition of income presents a more accurate picture of the redistributive effects achieved through fiscal policy in the region.

Despite improvements achieved when considering in-kind transfers, countries in the region are still highly unequal and the region stands as the most unequal of the world. Moreover, the redistributive impact achieved through fiscal policy lags behind the impact achieved by OECD member countries. Consequently, several challenges in terms of incentive design, quality and impact of spending, implementation and targeting of policies as well as appropriate evaluation lie ahead to improve the efficiency and effectiveness of fiscal policy.

In part, the objective of fiscal policy should be to pursue equality of opportunity, which means ensuring the development of individual capacities so that circumstances such as gender, ethnicity, place of birth, or socio-economic and family environment, which are beyond a person's control, have no influence on the opportunities available to an individual or the results of his or her efforts. Success should depend on personal choices, effort and talent rather than on the circumstances surrounding a person's birth (Roemer, 1998).

A major fiscal policy challenge for reducing inequality and poverty is appropriately selecting the tax instruments and expenditures that can help improve human capital in the poorest population sectors. This requires carefully designing interventions that avoid disincentives to formal employment, investment, and savings. Equally important is the need to consider the tax benefit system as a whole, so that the creation of entitlements and the associated increase in spending can be assessed against the costs arising from increasing reliance on distorting tax instruments.

A robust design of interventions and programmes is also of essence to guarantee that they achieve their intended results and create conditions to leave poverty behind. For instance, to ensure that CCTs do not become a permanent need, they should be directly contingent on investment by the beneficiary households in human capital, particularly health, nutrition and education, especially for children (Levy, 2015). In turn, the amounts should be limited and should not be permanent in order to avoid creating a disincentive for development and work.

As for government spending, there is much to gain from improving the incidence of targeted programmes through effective means-testing (or alternative mechanisms, such as self-selection, where means-testing is not possible), enforcement and evaluation. The implementation of impact evaluation is crucial not only to assess the effects of interventions but as an input to redesigning existing interventions and planning future ones. Instituting a culture of policy and programme evaluation could do much to improve policy design and implementation.

Additionally, as a mechanism to improve targeting of subsidies and transfers, an alternative already at place in some countries is the improvement of existing financial management information systems (FMIS). As discussed previously most of the countries in the region use statistical targeting (mean-tested) or geographical targeting, but these methods are only able to explain between 50% and 60% of the household socio-economic conditions and therefore, are an imperfect measure for identifying the population with fewer resources (Robles, Rubio and Stampini, 2015). The region can showcase some examples of good practices in improving targeting, such as are the FMIS implemented in Argentina in 1997 and in Brazil in 2001.

Another area of potential improvement is expenditure management. Strategic fiscal policy plans should indeed contemplate the importance of achieving growth with efficiency and equity. This requires considering the various issues involved in achieving equity, and the importance of maintaining fiscal sustainability. Policies that create trade-offs should be examined with greater care, evaluating and, if possible, quantifying the extent to which one of the objectives is being sacrificed to achieve the other, while taking the institutional, cultural, and social peculiarities of each country into account. Some of the appropriate expenditure management instruments for incentivising not only

efficiency but also equity in expenditures could be gender-based budgeting, open budgeting, results-based budgeting, and medium-term fiscal and budget frameworks.

Notes

1. For this chapter the IDB commissioned a background research using the methodology framework of the Commitment to Equity (CEQ) project of the Economics Department of Tulane University. The research was led by Nora Lustig.

2. Data for Latvia is not considered as the country was not an OECD member country when the calculations were carried out.

3. Croatia is not considered as the information was not available.

4. IDB, OECD, CIAT and ECLAC (2015) and Corbacho *et al.* (2013).

5. Lustig 2016.

6. These revenues from NRNR could have important indirect progressive effects once a certain amount of them are used to finance some transfers and in-kind social spending with positive impact on income distribution.

7. There are here some considerations regarding the sustainability of fiscal policy and the reduction of inequality in the medium term, but those issues will be addressed below.

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APPENDIX 1

Definitions of income concepts: a stylized presentation

Diagram 1. **A stylized presentation**
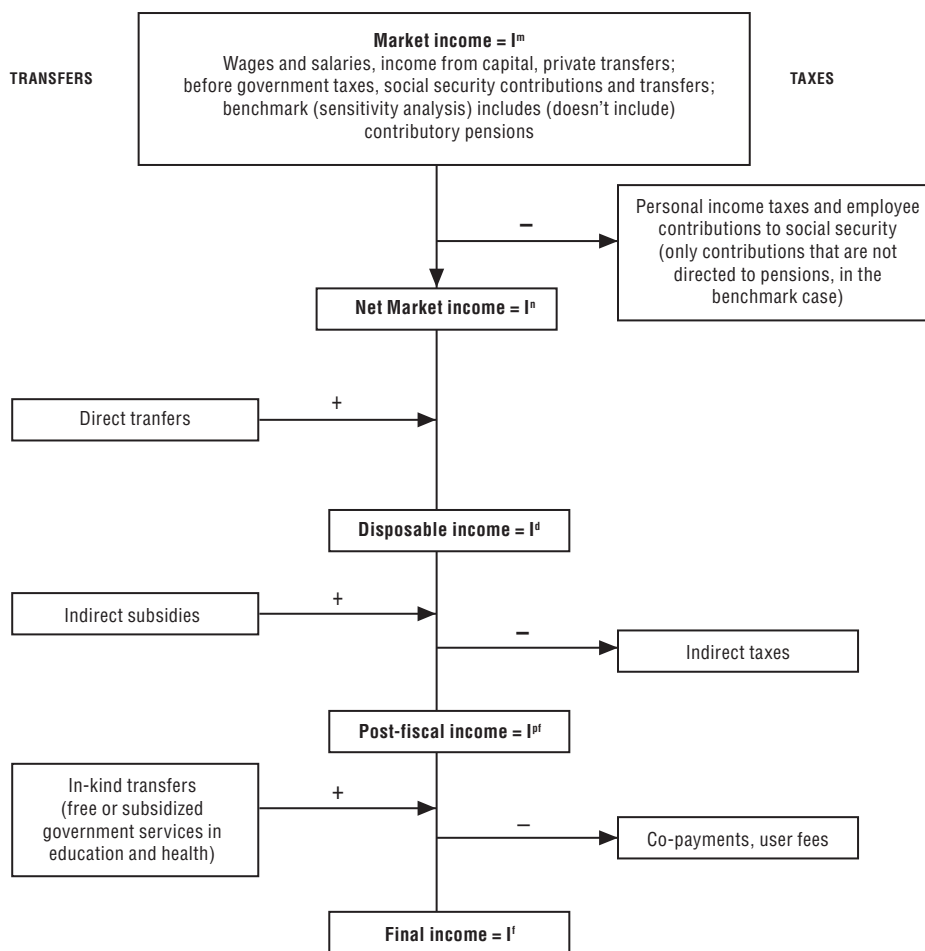
Note: In some cases we also present results for "final income*" which is defined as disposable income plus in-kind transfers minus co-payments and user fees.
Source: Lustig and Higgins (2013).
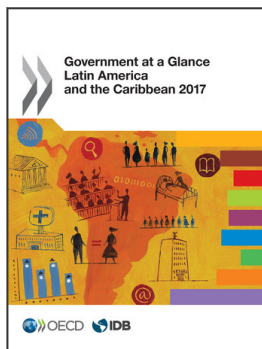
APPENDIX 2

Practical case of the Lambert's conundrum

For simplicity, let's assume that there is only one tax and one transfer as a fiscal policy intervention, as presented in Table 1, taken from Lambert (2001, p.278).

Table 1. **Lambert's Conundrum**

Individuals	1	2	3	4	Total
Income before taxes and transfers	10	20	30	40	**100**
Taxes	6	9	12	15	**42**
Transfers	21	14	7	0	**42**
Income after taxes and transfers	25	25	25	25	**100**

Source: Lambert (2001), Table 11.1, p. 278.

If the effective tax rate is measured as a percentage of market income (income before taxes and transfers), the tax is clearly regressive, as the tax rate is lower as income rises. However, if revenue from this tax is used to finance a progressive fiscal transfer (the amount of the transfer is higher, the lower the income level), the final effect is equalising thanks to the combination of the tax and the expense it finances, as final income (income after taxes and transfers) is equal for all groups. In this example, despite the fact that the tax is regressive when measured as a percentage of market income, the amount of revenue collected by quartile increases with the level of income and the transfer financed from this revenue is progressive, as the amount of it decreases as income rises. This can also be extended for the argument that it is much better to reduce as much as possible VAT exceptions and lower the tax rates, and use the extra revenue produced by this policy intervention to finance a direct well-targeted transfer scheme to compensate low-income groups.