



## Bringing taxation into social protection analysis and planning

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### Abstract

The expansion of social protection in low- and middle-income countries over the last two decades has been accompanied by a growing number of studies on the distributional impact of social protection spending. When such analyses consider social protection separately from tax policy, they provide a partial picture of the poverty and inequality impact of fiscal policy. In addition to determining the net distributional impact of fiscal policy, tax revenue levels and 'mix' matter to the resources available for social protection financing and its sustainability over time. Efforts to support and increase social protection spending in a sustainable fashion to meet poverty and inequality reduction goals are increasingly looking at options to increase revenue through taxation. This paper contributes to efforts to include tax considerations in social protection analysis and design by discussing the key methodological issues in carrying out joint distributional analysis, reviewing the evidence on the incidence and distributional impact of taxes and transfers and discussing alternative tax revenue sources and their implications for social protection financing and sustainability.

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# Acknowledgements

The paper benefitted from comments from Armando Barrientos, Christina Behrendt, Paddy Carter, David Coady, Matthew Greenslade, Paul Harvey, Katja Hujo, Gabriela Inchauste, Nora Lustig, Leigh Stubblefield, Nick Taylor, Simon Whitfield and participants at a World Bank Social Protection and Labour seminar in February 2015. Particular thanks are due to Matthew Greenslade who provided advice on the scope and content of this work throughout. This paper was completed with financial support from DFID.

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# Abbreviations

ADB	Asian Development Bank
BRAHMS	Brazilian Household Micro-simulation System
CCT	Conditional cash transfer
CEQ	Commitment to Equity project
CGE	Computable general equilibrium
ECA	Eastern Europe and Central Asia
EU	European Union
EUROMOD	Tax-benefit microsimulation model for the European Union
GDP	Gross domestic product
HIC	High-income country
ICTD	International Centre for Tax and Development
IFS	Institute for Fiscal Studies
ILO	International Labour Organisation
IMF	International Monetary Fund
ISER	Institute for Social and Economic Research
LAC	Latin America and the Caribbean
LIC	Low-income country
MENA	Middle East and North Africa
MIC	Middle-income country
NAMOD	Namibian tax-benefit microsimulation model
OECD	Organisation for Economic Cooperation and Development
SAMOD	South African tax-benefit microsimulation model
SSA	Sub-Saharan Africa
UNRISD	United Nations Research Institute for Social Development
VAT	Value-added tax
WAEMU	West African Economic and Monetary Union

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# Executive summary

The expansion of social protection in low- and middle-income countries (LICs and MICs) over the course of the last two decades has been accompanied by a growing number of studies on its distributional impact. Although such studies provide precious information on policy performance, and on the policy features that facilitate progress in poverty and inequality reduction, they typically provide a partial picture of the impact of fiscal policy by considering social protection separately from tax policy. Despite calls for the joint analysis of taxes and transfers, the available evidence for LICs and some MICs remains limited compared with evidence available for high-income countries (HICs).

In addition to contributing to determining the net impact of fiscal policy, tax levels and ‘mix’ matter to the financing and sustainability of social protection policy. As the demand for social protection in LICs and MICs has grown in recent years, efforts to support and increase resources for social protection spending are increasingly looking at options to increase revenue through taxation.

## Social protection spending and tax revenue: Trends in levels and composition

Compared with high-income countries, developing countries display low levels of social spending and tax revenue as a percentage of GDP. The composition of spending and tax revenue also differs. LICs and MICs spend lower shares of total social spending on social protection. In LICs, a much higher share of tax revenue is obtained from indirect taxes compared with HICs, where the highest share of revenue derives from personal income taxes. Developing countries also rely on a more limited number of types of tax sources compared with HICs.

Tax revenues, as a percentage of GDP, recorded a limited increase over the last two decades in developing countries. Increases are mainly linked to the expansion of indirect taxes and to the taxation of natural resources, against declining trade tax revenues, modest gains in personal income tax and limited revenue from property and corporate income tax. There are still 17 countries in SSA with tax-to-GDP ratios of less than 15% and only two countries of the eight in the West African Economic and Monetary Union (WAEMU) reached their convergence target of a 17% tax-to-GDP ratio in 2011, suggesting that there is scope to increase tax revenue in these countries.

In LICs, low per capita income and low shares of national income that go to wages and salaries directly limit tax revenue potential and the scope for personal income tax. High levels of informal sector activity, low urbanisation and a large agricultural economy also present a challenge to tax collection. Beyond these economy-wide and labour market factors, tax policy and administration help to explain the low tax take in LICs. The high and growing reliance on tax exemptions and the under-taxation of the wealth and incomes of wealthy income groups and of land and property are associated with limited revenue bases and with higher tax avoidance and evasion. Weak technical, technological and statistical capacities in LICs also pose a challenge to tax collection.

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## Distributional analysis: Analytical approaches and methodological issues

Basic incidence analysis examines who bears the economic burden of a tax and benefits from public services or transfers and describes the welfare impact of government spending and taxation using individual or household-level data and a combination of evidence and assumptions about who pays taxes and benefits from transfers and their costs. It displays some practical advantages in comparison with more complex analytical approaches. At the same time, it reveals a picture of a point in time rather than over the lifecycle and does not incorporate behavioural or general equilibrium modelling, producing a first-order approximation of the distributional effects of policy. This has implications for the analysis of certain fiscal policy instruments, such as inter-temporal transfers, and for the policy lessons that can be drawn from research findings.

Key issues in basic fiscal incidence analysis, and across which studies vary, include: the definition and comparison of income concepts (and the types and range of taxes and transfer policies considered), the evidence and assumptions used to determine the incidence of taxes and social spending, and the measures used to assess distributional impact.

### The incidence and distributional impact of taxes and transfers: The evidence

The review of the evidence highlights how taxes and transfers can have a significant impact on poverty and inequality. For example, in the OECD countries reviewed here, direct taxes and transfers alone contribute to an average 30% reduction in income inequality. In comparison, their distributional impact is muted in developing countries. For instance, in Latin America and the Caribbean (LAC), direct taxes and transfers contribute to an average reduction in the Gini coefficient of 4%.

Although some patterns of the incidence and distributional impact of specific tax and transfer categories emerge from the findings of basic incidence analyses, there is limited scope for generalisations. Tax and transfer policy design and implementation details matter and can be adjusted to take equity concerns into account alongside other policy priorities.

Cross-country studies of tax performance find that direct taxes, such as personal income taxes, are generally progressive and consumption taxes are generally regressive. Regressive taxes can temper progress in poverty and inequality reduction achieved through progressive social spending and taxes, as indicated by evidence for OECD countries. Studies for Bolivia, Brazil and Uruguay, show that consumption taxes partly offset the redistributive impact of the fiscal system. Given the dominance of taxes on consumption in the tax structure in most LICs and MICs, the distributional consequences of consumption taxes are of particular importance.

On the spending side, the incidence of social protection transfers varies considerably across countries as does their poverty and inequality impact, with the low transfer values and low coverage of transfers accruing to low-income groups in many LICs and MICs limiting the distributional impact of such programmes. Although total in-kind spending tends to be progressive in relative terms, and has an equalising impact, the high number of spending categories which are regressive in absolute terms imply that associated social services and transfers accrue disproportionately to wealthy income groups. Moreover, results on the 'equalising' effects of certain categories of spending, such as primary education, may be overstated if studies do not take into account demographic differences by socioeconomic group and/or variations in the quality of treatment across socioeconomic groups (i.e. with the poor experiencing lower quality services).

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## Implications for distributional analysis and tax-transfer policy

Recent efforts to improve the comprehensiveness and rigour of analytical tools available for basic incidence analysis, coupled with improvements in data availability and quality, are leading to a growing number of studies that consider taxes and social protection spending jointly, gradually filling a significant evidence gap. Initiatives aimed at supporting such efforts could pay particular attention to addressing the issues of the comprehensiveness of income concepts adopted, tax and spending incidence assumptions and the valuation of social spending.

The inclusion of indirect taxes and in-kind transfers in distributional analysis presents a challenge in terms of assumptions and data requirements, yet is essential for a meaningful analysis for LICs and MICs, where such policy instruments play an important role. Finally, basic incidence analysis should be complemented by the implementation of analytical instruments, such as microsimulation models, that address some of the limitations of basic incidence studies and allow behavioural and other second-round effects to be taken into account.

Compared with social protection financing alternatives, such as expenditure reallocation and additional external financing, taxation displays some key distinguishing features and potential advantages. These include the potential for tax systems to promote government accountability and, in turn, improved service provision and citizens' willingness to pay taxes.

While the expansion of consumption taxes and increasing reliance on natural resource revenue represent an important opportunity, they also raise equity and sustainability concerns. In addition to adopting tax policy design measures to address the latter, there is scope to extend contributory social protection and tackle the distinctive 'revenue gaps' related to tax exemptions and incentives, the under-taxation of land, property and wealth of high net-worth individuals, and tax avoidance and evasion.

Social protection and tax policy are commonly examined separately, yet they are strongly linked. Tax revenue levels and 'mix' matter to the resources available for social protection financing and to the net incidence and distributional impact of fiscal policy. If poverty and inequality reduction are central fiscal policy concerns, then a more careful consideration of taxes and transfers and the ways in which they operate jointly is warranted.

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# 1 Introduction

## 1.1 Background and motivation

The expansion of social protection in many low- and middle-income countries over the course of the last two decades has been accompanied by a growing number of studies producing a strong evidence base on its distributional impacts and on the policy design and implementation features that influence such outcomes. When such analyses consider social protection spending separately from taxation, they may provide precious information on the performance of social protection spending, but contribute at best a partial picture of the net distributional impact of fiscal policy.

Tax levels and ‘mix’ matter directly to the net distributional impact of fiscal policy. They also have implications for levels of revenue available for social protection spending and for its sustainability over time. These factors make a strong case for the joint analysis of social protection and taxation, with the objective of obtaining both a more complete picture of the distributional impact of tax and transfer policy and a better understanding of the policy and financing options available for the development of sustainable social protection systems.

Despite strong theoretical foundations on the relationship between tax incidence and welfare (Lambert, 2001; Boadway and Keen, 2000) and calls for the joint empirical analysis of social spending and taxation (e.g. for the developing country context see: Barrientos, 2012; Hujo and McClanahan, 2009; Lustig and Higgins, 2013), evidence on the joint impact of taxes and transfers in low- and middle-income countries (LICs and MICs) remains low. Recent efforts to bring tax considerations into social protection analysis in the international development context include:

- a) new empirical analysis of the distributional impact of taxes and transfers (e.g. Tulane University’s Commitment to Equity initiative); and
- b) policy studies of the linkages between tax design, administration, revenue and their implications for social protection financing and sustainability (e.g. Barrientos, 2012; UNRISD, 2008).

This paper aims to contribute to such efforts by:

- reviewing the main trends in social protection and taxation;
- providing an overview of the main methodological approaches to carrying out distributional analysis of taxes and transfers, focusing on basic incidence analysis;
- reviewing the available evidence on the incidence and distributional impact of taxes and transfers;

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- identifying the main social protection financing options, with a focus on alternative tax revenue sources, and their implications for equity and policy sustainability.

## 1.2 Definitions

The main concern of this paper is the poverty and inequality impact of taxes and transfers. Policies are discussed with respect to their potential impact on the distribution of income or consumption among individuals or households, or ‘vertical redistribution’. Additional objectives pursued by social protection policies, such as income/consumption smoothing over the course of people’s lifetimes and among different groups defined on the basis of characteristics such as age, gender, household composition are not the focus of this paper. At the same time, recognising the multiple objectives of social protection and tax policy is critical when reflecting on the policy implications arising from the policy analysis reviewed here. In some cases, the evidence is provided for policies pursuing different objectives and this should be borne in mind when comparing the distributional impact of alternative policies.

Social protection operates within a broader context of social policy and its design, implementation and effects are inextricably linked to the broader policy setting within which it operates. In reflection of this, the paper includes a discussion on social spending categories beyond social protection in both the methodological section and the evidence review section. However, the scope of the work only permitted the inclusion of certain categories of social spending in addition to social protection spending: these are education and health. In particular, Section 4, which summarises the evidence on the incidence and distributional impact of social spending, includes a sub-section on social protection (understood to include social assistance, social insurance and labour market social protection interventions) and on in-kind transfers in the form of education and health spending. As it stands, Section 4 omits to review the evidence on other categories of spending that may account for a significant share of total government spending in some countries, such as subsidies.

The review covers a range of tax instruments. The issues associated with estimating the incidence and impact of different taxes are discussed in Section 3. For some tax instruments, the evidence on their distributional implications is in practice limited, partly as a result of the complexity associated with determining the incidence and impact of certain tax instruments (e.g. direct taxes compared with indirect taxes), but also as a result of policy reality (i.e. the high reliance on some tax instruments over others; e.g. in high income countries, on personal income tax compared with corporate tax). Throughout the paper, taxation refers to formal, public tax instruments and does not include what is sometimes referred to as ‘informal taxation’, the payments and costs which are incurred outside formal statutory arrangements (see Lough et al., 2013).

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# 2 Social protection expenditure and taxation: Levels and composition

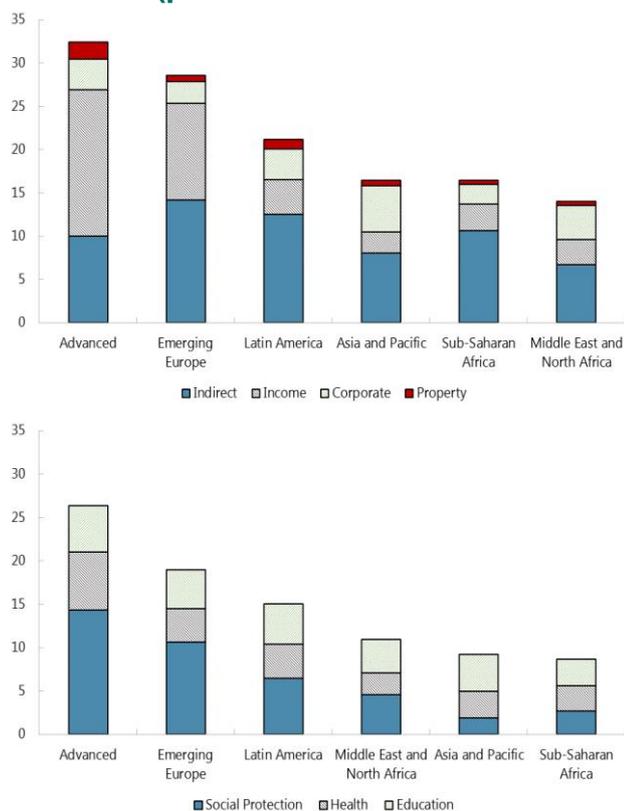
## 2.1 Trends in social protection expenditure and taxation

The comparison of the levels and composition of tax revenues and social spending across macro-regions and country groupings reveals two distinguishing features of spending and taxation in low- and middle-income countries (see Figure 1). First, in comparison with high-income countries (HICs), LICs and MICs display comparatively low levels of social spending and tax revenue. While average tax ratios for HICs exceed 30% of GDP, tax ratios in developing countries (excluding Emerging Europe) generally fall in the range of 15-20% of GDP. Total social spending is also much lower in developing economies.

Second, in terms of composition, LICs and MICs spend lower shares of total social spending on social protection, compared with higher income countries. The share of social spending allocated to social transfers is especially low in LICs in the Asia and Pacific region and in sub-Saharan Africa (SSA).

The ILO (2014) reports spending on social protection as a percentage of GDP by population group over the course of the lifecycle and shows the extent to which resources spent on social protection vary across macro-region and countries. For instance, spending on child and family benefits ranges from 2.2% of GDP in Western Europe to 0.2% of GDP in Africa and Asia and the Pacific; social protection expenditure ensuring income security during working age varies from 5.9% in Western Europe to 0.5% in Africa and 1.5% in Asia and the Pacific. Developing countries spend between 1% and 2% of GDP on social safety nets per year (Grosh et al., 2008), with low-income countries in Africa spending an average of 1.1% of GDP on safety nets (Monchuk, 2014).

**Figure 1: Tax revenues and social spending by macro-region (percent of GDP 2011 or most recent year)**



Source: IMF (2014a).

The comparison of tax revenue composition across macro-regions and countries reveals that in LICs a much higher share of total revenue is obtained from indirect taxes compared with HICs, where the highest share of revenue derives from income taxes (ADB, 2014; IMF, 2014a). The reliance on property taxes is low across regions and countries, and lowest, as a share of total tax revenue, in the Middle East and North Africa (MENA), SSA and Asia and the Pacific.

This static picture conceals some important trends. Social protection spending and coverage has increased in LICs and MICs in recent years (ILO, 2014). For example, social protection spending increased from around 2% of GDP to 7% of GDP in Rwanda and Tanzania between 2000 and 2010 (ILO, 2014). Spending on safety nets has recorded steady increases in countries such as Kenya, where it doubled between 2008 and 2010 (Monchuk, 2014).

In the area of taxation, according to the Government Revenue Dataset of the International Centre for Tax and Development (ICTD), tax revenues as a percentage of GDP have recorded an increase over the last two decades in countries across the developing world, yet continue to remain well below HIC levels (Prichard et al., 2014). Among developing countries, non-resource tax collection increased from an average of about 13% of GDP in 1990 to about 16% in 2009 (Prichard et al., 2014).

In SSA, revenue from non-resource taxes grew on average from 14.4% of GDP in 1990 to 15.3% of GDP in 2010; while resource taxes grew from 4.4% of GDP to 7.1% over that same period (Mansour, 2014). Mansour (2014) also notes that in SSA real tax revenue per capita declined between 1980 and 2010.

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Tax ratios have tended to increase in middle-income SSA countries, since they are disproportionately resource rich, and to record modest increases in low-income SSA countries (IMF, 2011). This trend has been accompanied by an average decrease in revenue from trade taxes, an increase in revenue from indirect taxes (mainly VAT and excises) – these increased by broadly the same magnitude – and mainly stable income taxes (Keen and Mansour, 2009; Mansour, 2014).

In Latin America and the Caribbean (LAC), average tax collection increased steadily from less than 13% of GDP in 1990 to almost 18% in 2009 (Prichard et al., 2014). Increases in the tax burden have mainly resulted from the expansion of indirect taxes, particularly VAT (Barrientos, 2012; Cornia et al., 2011; Tanzi, 2013). Revenue from taxes on the incomes of individuals remains low, at 1.4%, compared with 9.2% in Organisation for Economic Co-operation and Development (OECD) countries (and much higher percentages for many of the OECD countries in Europe). The highest revenue from taxes on the incomes of individuals is recorded for Brazil, at 2.6% of GDP, followed by Mexico and Panama at around 2% of GDP. Revenue from corporate income taxes averaged 3.6% of GDP, almost the same as in OECD countries for which the average was 3.9% of GDP (Tanzi, 2013).

As with spending, Asia lags behind other world regions on tax revenue. Revenue from taxes in developing Asia remains, despite improvement, at barely half the average of the OECD and below LAC levels (ADB, 2014; IMF, 2014a). South Asia has been the worst performing region globally in terms of aggregate levels of tax revenue, while it also experienced the most limited increase in revenue over 1990–2010, according to Prichard et al. (2014).<sup>1</sup> The main source of tax revenue in Asian LICs and MICs is tax on goods and services – around 10% of GDP (indirect tax is the single most important fiscal revenue instrument in China, India, the Republic of Korea and Thailand) – followed by revenue from corporate income tax (in line with the revenue share recorded in LAC) (ADB, 2014). The share of income taxes in total tax revenues is lower in developing Asia than in other parts of the world. As in other regions, international trade taxes have declined in importance (ADB, 2014).

The comparison of social protection spending and tax-to-GDP ratios across macro-regions and countries suggests that there is scope for increasing both spending and revenues in countries where these remain comparatively low. In the case of revenues, a comparison with commonly used benchmarks reinforces this point: there are still 17 countries in SSA with tax-to-GDP ratios of less than 15%, and only two of the eight countries in the West African Economic and Monetary Union (WAEMU) reached their convergence target of a 17% tax-to-GDP ratio in 2011 (IMF, 2013a; Africa Progress Panel, 2014).<sup>2</sup> For LAC countries, Cornia et al. (2014) compare effective tax collection with ‘potential tax collection’<sup>3</sup> and conclude that most of the region’s effective tax collection is considerably lower than the potential one.

## 2.2 Tax structure and revenue: drivers and implications

The governments of LICs raise significantly less of their GDP in taxes than do the governments of richer countries. Moreover, the composition of tax revenue differs

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<sup>1</sup> Although lower tax revenue figures for South Asia compared with other regions could reflect better GDP measurement rather than lower collection, available research is consistent with the view that tax collection has been much less successful in the region than elsewhere (Prichard et al., 2014).

<sup>2</sup> One of the WAEMU’s convergence targets is for countries to have a 17% tax-to-GDP ratio.

<sup>3</sup> Estimated by regression on the basis of the logarithm of LAC GDP per capita and variable which affect the ease of tax collection, such as the share in total value added of hard-to-tax agriculture.

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across country income group and macro-region. The factors that help to explain these patterns identified by the literature include a country's economy and labour market structure, tax design and tax administration. They also involve political and social factors that interact two-ways with the economy to determine revenue levels (Besley and Persson, 2014). The OECD (2014) for instance argues that low tax morale – people's motivation to pay their taxes, beyond their legal obligation to do so – along with weak state legitimacy and (perceptions of) government corruption are some of the key drivers of low tax revenue in fragile states. These in turn are directly influenced by tax design and administration practices (Di John, 2010). While political economy factors will be touched upon again in Section 5, this section provides a brief overview of the economy- and tax policy-related relevant factors.

A country's economy and labour market structure are key determinants of tax revenue levels and composition. The factors that are consistently associated with high tax takes are average per capita income levels and linked measures of the extent of urbanisation and the size of the non-agricultural economy (Moore, 2013). In LICs, poverty, low per capita income and the low shares of national income that go to wages and salaries directly limit tax revenue potential and the scope for personal income taxes (ADB, 2014; Moore, 2013; Tanzi, 2013). Related characteristics such as low urbanisation and a large agricultural economy present additional challenges related to tax collection and administration and are associated with high tax collection costs.

The domination of informal sector activity in many countries also restricts the tax base and poses a challenge to tax collection. Efforts to extend personal income taxes in Mozambique, Tanzania and Zambia for instance, met with the challenge of large untaxed informal sectors and the related problem of employers' non-compliance in registering their employees to remit personal income tax to the relevant authorities (Fjeldstad and Heggstad, 2011). In practice, in many countries, informal sector taxation has been neglected on the basis that it offers limited potential for short-term increases in revenue and collection costs are high. However, potential benefits include building a culture of tax compliance among small and medium enterprises, encouraging tax compliance by formal firms and increasing economic growth of small firms through the benefits associated with formalisation (Joshi et al., 2013).

Economic growth, per capita income and wage increases, and employment formalisation are all important for widening the tax base, yet they do not mechanically translate into a higher tax take. To take advantage of growth and economic development requires the government to implement tax reform and invest in improvements in the tax system (Besley and Persson, 2014). For example, Besley and Persson (2014) argue that the introduction of withholding of taxes from pay, a major fiscal innovation in tax system development, requires a change in government policy along with a determination to ensure compliance. Without such measures, income tax revenues may not increase significantly with development; whether economic growth will actually generate more tax revenue depends on government decisions on tax policy, to which we turn now.

Revenue bases in many LICs and MICs are limited as a result of the under-taxation of resources and tax exemptions and incentives that result from policy design. Tax design choices also influence practices of tax avoidance and evasion. The high use of tax exemptions in many LICs reduce government revenue and facilitate tax evasion and avoidance. Tanzi (2013), for instance, argues that in LAC, the low tax rates applied to all incomes, but especially on the incomes that are not derived from wages and salaries, together with the 'remarkably high' levels of personal

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exemptions from income taxes, wipe out a large part of the tax base for personal income tax in countries in the region.

In SSA economies, reduced tax rates and tax incentives designed to attract foreign investors have become more pervasive. In 1980 about 10% of SSA LICs offered tax holidays, while by 2005 about 80% did (Keen and Mansour, 2009). Yet evidence of their effectiveness in attracting investors is at best unclear (OECD, 2014). While taxation matters for foreign investors, other considerations, such as infrastructure and rule of law, matter more (Fjeldstad and Hegstad, 2011; IMF, 2011). The lost potential revenue through tax incentives can be a significant drain on domestic revenue mobilisation (OECD, 2014).<sup>4</sup>

Tax incentives are especially common in mining. The under-taxation of the profits of mining companies has enabled extractive industries to effectively avoid taxation altogether for a large number of years. Yet mining could potentially contribute with substantial revenues since the activity, in principle, is relatively easy to tax compared with many other economic activities.

Other ‘revenue gaps’ include the under-taxation of land and property, the under-taxation of the wealth and incomes of very rich individuals (e.g. in Zambia, there is no tax on capital gains) and evasion by those transnational corporations that use transfer mispricing to relocate their profits to the places in the world where they pay little or no tax (Moore, 2013).

Weak diversification in revenues and the high reliance on natural resource revenue also poses a challenge to increasing tax revenue levels, especially in SSA. There is some evidence that resource-rich countries neglect the development of non-resource taxation. A study covering 20 ‘resource intensive’ countries finds that every 1% increase in resource revenues lowers non-resource revenues by up to 0.12% of GDP. This suggests that easy revenues from extractive industries may deter politicians from embarking on deeper tax reforms (Crivelli and Gupta, 2014).

Finally, weak technical, technological and statistical capacities in LICs pose a challenge to broadening their tax base. Revenue systems in LICs may lack basic information systems, trained staff and computerised accounts. On top of the structural factors outlined above which lead to high tax collection costs, these factors pose an additional challenge to collecting taxes from individuals, employers and enterprises. In addition to making it harder to levy taxes, weak technical, technological and institutional capacities facilitate capital flight and tax avoidance and evasion.<sup>5</sup>

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<sup>4</sup> OECD (2014) describes how fragile states are engaged in a ‘race to the bottom’ to out-do each other in attracting foreign firms with special tax conditions and incentives and argues that fragile states are particularly vulnerable to agreeing unfavourable terms as a result of the high need to generate revenue quickly coupled with especially low tax policy and administrative capacity.

<sup>5</sup> Significant amounts of revenue, exceeding aid and foreign investment, are lost through illicit financial flows originating from tax evasion in SSA countries (Africa Progress Panel, 2014). Weak national tax laws also leave gaps that can be exploited for tax avoidance. See Bastagli (2013). These issues are being addressed by the Base Erosion and Profit Shifting project of the G20/OECD, BEPS (OECD, 2014).

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# 3 Assessing the incidence and distributional impact of taxes and transfers

In advance of reviewing the evidence on the incidence and distributional impact of taxes and transfers, this section provides a brief overview of methodological approaches to distributional analysis. It then narrows its attention to basic incidence analysis and to the main issues that need to be addressed when carrying out this type of analysis.

## 3.1 An overview of methodological approaches

Studies devoted to the effects of public expenditures and taxation policies on the distribution of economic welfare may be micro-economically oriented or rely on macroeconomic modelling to analyse welfare effects, for instance using computable general equilibrium models (CGE).<sup>6</sup> This review concentrates on empirical studies classified under the first approach: they are primarily micro-economically oriented and data-based (that is, they rely on disaggregated data on the sources and uses of income).

Within this broad category of studies, basic incidence analysis of taxes and transfers examines who bears the economic burden of a tax and benefits from public services or targeted transfers and describes the welfare impact of government spending and taxation. It typically uses individual or household-level data and a combination of evidence and assumptions about who pays taxes and benefits from transfers and their costs to analyse the incidence and distributional impact of policy on individuals or households.

Key features of this type of analysis are that it reveals a picture of a point in time rather than over the lifecycle and does not incorporate behavioural or general equilibrium modelling (e.g. Lustig and Higgins, 2013). This has a number of implications. First, it produces a first-order approximation of the distributional effects of taxes and transfers; in the comparison of the distribution of different incomes, it cannot be claimed that the ‘pre-fiscal’ income equals the true counterfactual pre-fiscal income in the absence of taxes and transfers (Boadway and Keen, 2000; Demery, 2003; Lustig and Higgins, 2013). Second, basic incidence analysis, by describing the situation as it is – how the tax burden and spending are distributed across groups on average – reveals little about how

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<sup>6</sup> Alternative methods can be ranked by degree of difficulty or complexity in application. According to Gemmell and Morrissey (2002), CGE models are generally the most difficult to apply, followed by tax and benefit progression/progressivity measures and fiscal simulation models.

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changes in taxes and transfer policies will be distributed (e.g. Demery and Gaddis, 2009). Yet often the important policy questions concern who would benefit from a policy reform, for instance from the expansion or contraction of a specific spending programme. This requires marginal incidence analysis.<sup>7</sup>

Data availability determines to a large extent the type of analysis that can be undertaken. Where data are most limited, measures of tax and benefit progression or progressivity can be attempted. The increasing availability of household expenditure survey data for LICs allows the construction of concentration curves and dominance testing and is increasingly leading to the use of fiscal simulation models, as will be seen below.

Most of the studies reviewed in the next section are standard incidence analysis and do not incorporate indirect effects, nor do they examine marginal incidence. Reference is also made to results from studies based on microsimulation methods, although only for direct income distribution effects. Microsimulation describes a variety of modelling techniques that operate at the level of individual units, such as persons, to which a set of rules is applied to simulate changes in state or behaviour. Such models vary depending on the extent to which they are static or capture dynamics including behavioural responses and can also be extended to account for links with macroeconomic models (Figari, et al., 2014).

It is common for countries to have one or multiple national tax-benefit microsimulation model, such as the TAXBEN, managed by the Institute for Fiscal Studies (IFS) for the UK.<sup>8</sup> The EUROMOD tax-benefit micro-simulation model for the European Union, developed at the Institute for Social and Economic Research (ISER) at Essex University, permits the analysis of the effects of taxes and benefits on household incomes and work incentives for the population of each country and for the EU as a whole.<sup>9</sup>

Examples of micro-simulation tools developed for developing countries include Immervoll et al.'s (2005a) model for Brazil, the Brazilian Household Micro-simulation System (BRAHMS). More recently, the EUROMOD platform has been adapted for Namibia and South Africa: micro-simulation models NAMOD, for Namibia and SAMOD, for South Africa have been developed by researchers at the Centre for the Analysis of South African Social Policy, University of Oxford (Wilkinson, 2009; Wright et al., 2014).<sup>10</sup> These studies, as well as Atkinson and Bourguignon (1990), discuss the challenges and implications of implementing microsimulation approaches in LIC and MIC settings.

The primary focus of this paper is basic incidence analysis. The following sections discuss the main issues involved in this approach: (1) the definition and comparison of income concepts, (2) determining the incidence of taxes and social spending and (3) measures used to assess distributional impact.

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<sup>7</sup> Demery and Gaddis (2009) outline two broad approaches to tackling this issue. The first uses historical data tracing how changes in service use and government spending are distributed across the quintiles. A second approach is to use cross-sectional analysis of the survey data, assuming that the variations observed across households and regions will apply to over time changes in public spending. These estimate the marginal benefit incidence of government spending.

<sup>8</sup> See [www.ifs.org.uk/publications/4627](http://www.ifs.org.uk/publications/4627).

<sup>9</sup> See [www.iser.essex.ac.uk/euromod](http://www.iser.essex.ac.uk/euromod).

<sup>10</sup> See [www.casasp.ox.ac.uk/microsim.html](http://www.casasp.ox.ac.uk/microsim.html).

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### 3.2 Income concepts and the categories of taxes and transfers considered in basic incidence studies

A common technique used to estimate the distributional effects of taxes and transfers is the comparison of the distribution of different income concepts. For example, the comparison of the distribution of ‘market’ income with that of ‘disposable’ income provides an indication of the distributional effect of *direct* taxes and transfers.

Definitions of income vary depending on the sources of income taken into account and the taxes considered. One of the most commonly employed distinctions is between ‘market’ or ‘original’ income and ‘disposable’ income. The first reports ‘primary’ income from labour and capital and before taxes and government transfers. Disposable income is typically defined by subtracting *direct* taxes (e.g. personal income tax) and adding *direct* public transfers (e.g. social assistance cash transfers) to market income.<sup>11</sup>

By including only a selection of taxes and items of public spending (i.e. direct taxes and transfers) and omitting to consider additional transfers and taxes, the exclusive concentration on market and disposable income comparisons may give a false picture of the extent and profile of redistribution achieved by public spending and taxation (Harding et al., 2007; Paulus et al., 2009b; Aaberge et al., 2010). On the taxation side, the incidence of indirect and corporate taxes is commonly omitted in such comparisons. In countries that are heavily reliant on indirect taxes, this may mean that the majority of government taxation is not taken into account in the redistributive picture. On the spending side, when public expenditure for health, education, care and housing are not incorporated in the analysis, a significant share of public spending is not taken into account.

Attempts to address these shortcomings lead to the extension or adjustment of income definitions to include additional categories of spending (such as in-kind transfers and indirect subsidies) and taxation (such as consumption taxes). The addition of in-kind transfers to disposable income definitions yields the Canberra Group’s ‘adjusted disposable’ income concept (The Canberra Group, 2001) and the OECD’s ‘extended’ income definition (OECD, 2011). The potential inclusion of indirect taxes is discussed by the Canberra Group in the additional extension of the disposable income concept to the adjusted income concept,<sup>12</sup> while the Commitment to Equity Project clearly defines ‘post-fiscal’ income, obtained by subtracting indirect taxes and adding indirect subsidies to disposable income (Lustig and Higgins, 2013).<sup>13</sup>

In practice, empirical studies may include more or fewer income sources, taxes and public spending within each income category. Examples of the ways in which the definitions of income concepts vary can be found by comparing the recommendation on income concepts of the Expert Group on Household Income Statistics, also known as the Canberra Group, in 2001, those adopted by the OECD

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<sup>11</sup> A third and intermediate concept is given by ‘gross’ income or ‘total income’, as referred to by the Canberra Group, defined by market income to which income transfers are added and taxes are not subtracted.

<sup>12</sup> It observes: in the analysis the total redistributive effect of government intervention in the form of benefits and taxes on income distribution, ‘it may be desirable to impute the value of indirect taxes embodied in consumption expenditure to complete the picture’ (Canberra Group, 2001).

<sup>13</sup> Lustig and Higgins (2013) presents a step-by-step guide to applying the incidence analysis used in the multi country Commitment to Equity project (CEQ). They define the pre- and post-net transfers income concepts, discuss the methodological assumptions used to construct them, explain how taxes, subsidies and transfers should be allocated at the household level, and suggest what to do when the information on taxes and transfers is not included in the household survey.

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(2008 and 2011), and income definitions of the Commitment to Equity Project (CEQ), Tulane University.<sup>14</sup>

Studies also vary depending on how particular income sources or tax expenditures are treated. For some incomes in particular, their allocation to specific income categories remains a disputed matter. An example that is especially relevant to social protection analysis concerns whether contributory pensions are included as market income (when considered as deferred income) or as a government transfer. Particularly in systems with a large subsidised component, the first option is preferred over the latter (see Barrientos, 2012; Lindert et al., 2006; Lustig and Higgins, 2013). Lustig et al. (2013) count contributory pensions as part of market income and carry out sensitivity analysis in which pensions are classified under government transfers to test the extent to which this assumption matters.

Assessments of the distributional effects of taxes and transfers vary depending on the types of taxes and categories of public spending taken into account. They may also vary depending on differences in the allocation of incomes to alternative income categories. Such choices affect the results on the relative performance of different policy instruments and the assessment of the overall redistributive impact of tax and spending policies in a country. The policies considered also affect the ranking of performance between countries, as the mix of instruments varies from one country to another. For this reason, it is important to carefully take account of the taxes and transfers considered by a study when interpreting findings.

### **3.3 Determining the incidence of taxes and social spending**

Tax incidence analysis consists in the description of a person's/household's loss in real income resulting from the imposition of a tax and shows how that loss is distributed across units. Transfer incidence analysis measures the benefit obtained by the users of a public service or the beneficiaries of a transfer. It typically combines the cost of providing public services with information on their use to show how the benefits of social spending are distributed across the population (Castro-Leal et al., 1999; Demery, 2003; Sahn and Younger, 2003).

The data requirements and complexity of the assumptions required to estimate incidence vary depending on the tax and spending instrument. Such differences help explain why there is a higher number of studies and more empirical evidence on the incidence of certain instruments over others. The reasons why non-cash benefits and indirect taxes are less often included in studies of income distribution include the complexity of the calculations and assumptions required to estimate their incidence (Brandolini and Smeeding, 2009).

#### **3.3.1 Social spending**

For government social spending that involves direct income transfers, the measurement of the benefits relies on the monetary value of the benefit received, which is typically known, and the identification of the recipient can be comparatively straightforward. In contrast, the distributional analysis of in-kind transfers, government provision or subsidisation of goods and services, gives rise to two types of difficulties concerning both the amount imputed to allocated services and the identification of the beneficiary (Atkinson and Bourguignon, 1990; Demery, 2003).

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<sup>14</sup> See the Canberra Group recommendations: [www.lisdatacenter.org/books/the-canberra-group-expert-group-on-household-income-statistics-final-report-and-recommendations](http://www.lisdatacenter.org/books/the-canberra-group-expert-group-on-household-income-statistics-final-report-and-recommendations), OECD: [www.oecd.org/social/soc/dividedwestandwhyinequalitykeepsrising.htm](http://www.oecd.org/social/soc/dividedwestandwhyinequalitykeepsrising.htm) and CEQ: [www.commitmentoequity.org](http://www.commitmentoequity.org).

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There are two general approaches to allocating in-kind benefits to individuals and households: the ‘actual consumption approach’, which allocates the value of public services to the individuals that are actually using the service; and the ‘insurance value approach’, which allocates an equal amount of a service to everybody sharing the same characteristic such as age, gender etc. The reliance on one approach over the other depends, among other things, on data availability. While for some services the identification of who uses particular services or benefits from a transfer is relatively straightforward, for others, more detailed information that is required. In these cases, studies may rely on characteristics of individuals and households rather than actual use of services on the assumption that the probability a person will access these services is the same as that prevailing for others with the same characteristics (Demery, 2003; OECD, 2011).

Studies on the distributive impacts of government services may value these at their production costs, at their opportunity cost in the private sector or at household’s willingness to pay. A basic definition utilised for the unit cost of providing a service is as total government spending on a particular service divided by the number of users of that service. An alternative to production costs is to value services by what an individual would have spent if similar services had been bought on the market or on the willingness to pay for them, but the information requirements of these approaches are demanding.

Concerns about the production costs approach include that it does not take into account variations in need across income groups, does not consider service quality and may not reflect the actual valuation by beneficiaries (Atkinson and Bourguignon, 1990; OECD 2008; Sahn and Younger, 2000). Distributional analysis of in-kind transfers may reveal that poorer households gain larger shares of particular categories of public spending – for instance in primary education – than higher-income households. This may reflect the concentration of higher need for services among low-income groups, for example, as represented by the disproportionate share of primary-school-aged children in lower-income groups (Demery, 2003). Since the main beneficiaries of public education services (children) and public health care services (elderly) are disproportionately located in the lower half of the income distribution, assessments based on the standard approach of static incidence analysis using per capita income as the underlying welfare measure may show for some countries that in-kind transfers reduce inequality, but ignore the question of demographic and needs variations across socioeconomic groups.

A smaller share of spending accruing to higher-income group can also arise from the decision of wealthier individuals to opt out of publicly provided services for private ones as a result of service quality concerns. For example, Higgins et al. (2013) compare the distributional impact of government taxes and spending in the US and Brazil and find that when government spending in health and education are included, the two countries reduce inequality by approximately the same amount. However, they point out that this result may reflect the practice in both countries for the middle and upper classes to opt out of public education and health services due to quality concerns, inflating the inequality reduction results.

Studies vary as to whether they take these issues into account, for instance through the adjustment of equivalence scales to reflect variations in needs across individuals or households (see Section 4).

### **3.3.2 Taxes**

In the case of taxes, a central issue concerns the distinction between statutory incidence (the legal liability to pay the tax) and economic incidence (those whose

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real purchasing power declines because of the tax). Unlike the broad agreement on the approach to be used when estimating the incidence of personal income tax, no such agreement exists about how to model the incidence of indirect taxes on individuals: particularly for some indirect taxes, there is still no clear consensus about exactly where the economic burden of taxes fall (Harding et al., 2007; Warren, 2008).

Tax studies must decide on the appropriate tax incidence ‘shifting assumptions’ to make. Such assumptions are significant and have led some commentators to question the validity of certain tax incidence studies (e.g. Zolt and Bird, 2005). A critical step in tax incidence studies is to make explicit the assumptions about shifting and final incidence. Where there is no consensus, the appropriate approach is to conduct sensitivity analysis to check how the results differ under different assumptions (Claus et al., 2012).

The standard assumptions adopted in tax incidence analysis can be summarised as follows (Boadway and Keen, 2000; Gemmell and Morrissey, 2003; Claus et al., 2012; Sahn and Younger, 2003):

- Personal income tax: is typically assumed not to be shifted and to be paid by the recipients of income.
- Payroll taxes and social insurance contributions: employer contributions are typically assumed to be fully shifted to workers although some studies do not make this shifting assumption and assume the employers pay; employee contributions are assumed to be paid by employees.
- Corporate income tax: is shifted backwards to capital owners or forwards to workers’ wages or the consumers of taxed products. It is usually expected that the economic incidence of corporate tax falls on less mobile factors of production, typically labour (i.e. workers) rather than capital (i.e. shareholders) and there is some empirical evidence to support this.
- Taxes on goods and services, including several forms of sales taxes, value added taxes and excises: assumed to be shifted forward to consumers.
- Export taxes: assumed to fall on exporters in most cases.
- Property tax incidence: some studies assume no shifting, with the tax paid by the owners of the property or shifted to all owners of capital. Others assume the forward shifting of property taxes to renters or users of the property.

### **3.4 The distribution and impact of taxes and transfers: measures**

Studies on the incidence and distributional impact of taxes and transfers report different measures, including those designed to capture the progressivity of benefits and taxes and quantify the amount of redistribution achieved. Progressivity measures do not quantify the extent of redistribution through the tax and transfer system but provide information on a component of redistribution, alongside the size of an instrument and the extent of re-ranking when the instrument is applied.

Public spending is said to be progressive in *absolute* terms if those in the poorest quintiles receive a higher total share of the programme’s transfers than their population share (i.e. if the bottom 40% of the population receives more than 40%

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of total programme benefits). In such cases, spending is also said to be ‘pro-poor’. Public spending is progressive in *relative* terms if lower-income groups get a larger share of the benefits from government spending than they do of the underlying income or consumption distribution. A social transfer may be regressive in absolute terms, but less regressive – more equally distributed – than the distribution of market income and thus hold potential for reducing overall inequality. Different studies use the expression ‘progressive’ to denote spending that is progressive in relative or absolute terms differently, causing some confusion. The review in Section 4 will specify whether results indicate that spending is progressive in relative or absolute terms.

A tax is said to be progressive when the share of taxes in gross income increases with the level of income, and when the poor pay proportionately less tax than their share of income or expenditure.

Progressivity comparisons may be made across different taxes and transfers, yielding a ranking, in terms of progressivity, of alternative instruments. They are also made between specific taxes or transfers and the underlying income or expenditure distribution to provide an indication of their contribution to changes in the overall income or expenditure distribution.<sup>15</sup>

A common approach used to estimate the impact of taxes and transfers on income poverty is to subtract the value of transfers and add taxes to household or individual income. As outlined above, this provides a static counterfactual of what household/individual income would be without the transfers it receives and the taxes it pays. This approach is commonly applied to poverty headcount and poverty gap measures to yield an indication of policy impact on poverty. It is also applied to income inequality measures to capture the level of redistribution achieved by taxes and transfers. In this case, a common measure is given by the difference between the Gini index for different income definitions (e.g. market and disposable incomes to capture the effects of direct taxes and transfers).<sup>16</sup>

This approach provides only a crude estimate of the actual degree of public redistribution. As outlined above, this type of comparison does not take potential behavioural effects of taxes and transfers into account. Techniques that address these shortcomings typically require strong assumptions and display higher data requirements. On the contrary, the difference in the Gini indexes for different income definitions, such as market and disposable incomes, is an ‘intelligible, if imperfect, way to gauge the level of income redistribution in a country’ (Brandolini and Smeeding, 2009).

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<sup>15</sup> The graphical representation of benefit and tax incidence results can be helpful in showing how progressive alternative instruments are compared with other instruments and the underlying income or expenditure distribution. Concentration curves typically plot post-tax income, expenditure or tax payment against the proportion of the population ranked by pre-tax income. The Lorenz curve uses the same income definition to rank both axes. Spending is progressive in absolute terms if the concentration curve for the benefits is above the 45-degree line. Comparisons of the distribution of transfers and taxes with the distribution of income or expenditures (Lorenz curve) reveal how progressive or regressive they are in relative terms. Concentration curves of transfers lying above the Lorenz curve are progressive in relative terms, they indicate that the subsidy is more equally distributed than income or expenditure. If a tax is unambiguously progressive, its concentration curve will lie wholly outside the Lorenz curve for income (Demery, 2003; Davoodi et al, 2003; Gemmill and Morrissey, 2003).

<sup>16</sup> The Gini coefficient ranges between 0 in the case of perfect equality and 1 in the case of perfect inequality.

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# 4 The incidence and distributional impact of taxes and transfers: the evidence

Evidence on the distributional impact of taxes and transfers is regularly published for HICs. Less evidence exists for developing countries, yet recent studies are filling this knowledge gap and are reviewed in this section, drawing primarily on basic incidence analysis studies. Where available, it also reports results from microsimulation analyses and from studies that rely on multivariate regression to test the association between fiscal policies and income poverty or inequality. The first section reports results of studies that analyse the incidence of taxes and transfers jointly employing a common framework across countries. The second section reports findings from a wider range of studies, including those that examine the distributional effects of categories of transfers and taxes separately.

It is worth anticipating here, that although some patterns on the distributional impact of taxes and transfers by tax and transfer category emerge from this review, there is limited scope for generalisations and general conclusions on the impact of particular categories of taxes and transfers. Policy design details that influence the incidence and size of transfers and taxes matter to the distributional impact of policy, as does policy administration in practice.

## 4.1 The distributional impact of taxes and transfers combined

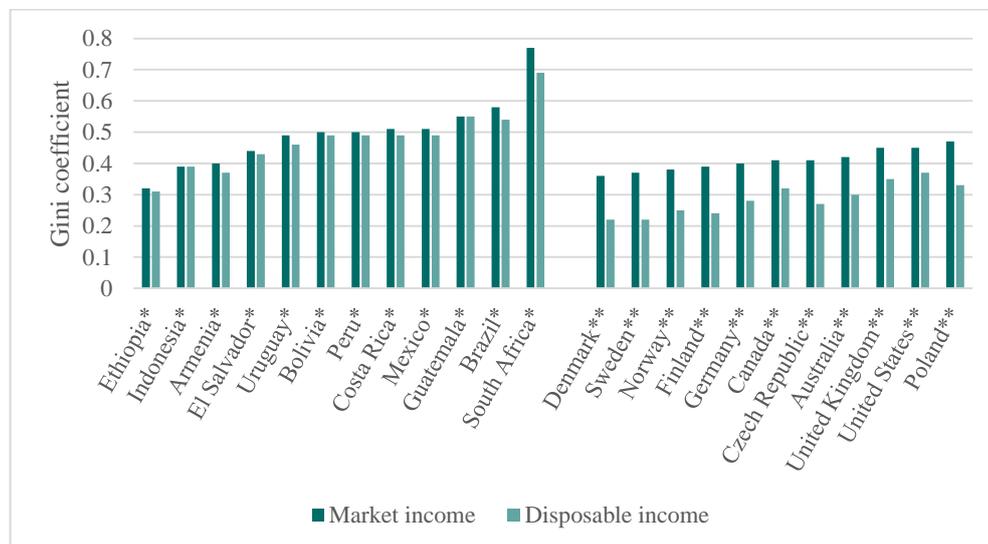
Cross-country comparative studies commonly compare the distributions of market and disposable income for an indication of the inequality impact of direct taxes and transfers. It is less common for comparative studies to cover in-kind transfers and indirect taxes due to the complexity associated with determining the incidence of such transfers and taxes, as discussed above. This section reports results for the impact of direct taxes and transfers, in-kind transfers and indirect taxes.

The comparison of the Gini coefficient of market and disposable income across countries, see Figure 2 and Table 1, highlights: (a) the potential inequality impact of direct taxes and transfers and (b) how the distributional effect of policy varies across countries and is lower in LICs and MICs compared with HICs.

The first clear finding is the significant impact achieved by direct taxes and transfers in HICs. In the eleven OECD countries examined, direct taxes and transfers contribute to an average 30% reduction in income inequality, the average income Gini coefficient is reduced by 12 percentage points, from 0.41 to 0.29 (Figure 2 and Table 1). Direct transfers and taxes contribute to a reduction of income inequality of 41% in Sweden and of 39% in Denmark. These figures

provide an indication of the potential inequality impact that direct taxes and transfers can achieve.<sup>17</sup>

**Figure 2: The impact of direct taxes and transfers on income inequality**



Source: Countries ranked in increasing order of market income Gini. Armenia (Younger et al., 2014), Bolivia (Paz-Arauco et al., 2014), Brazil (Higgins and Pereira, 2014), Costa Rica (Sauma and Trejos, 2014), El Salvador (Bencke et al., 2015), Ethiopia (Hill et al., 2014), Guatemala (Cabrera et al., 2014), Indonesia (Jellema et al., 2014), Mexico (Scott, 2014), Peru (Jaramillo, 2013), South Africa (Inchauste et al., 2014) and Uruguay (Bucheli et al., 2014) in World Bank (2014), OECD (2011); \* annual observation for year between 2009-2012; \*\* OECD data mid-2000s.

The second clear result is that taxes and transfers have a more muted impact on income inequality in LICs and MICs. A comparison between Latin American and EU countries provides a case in point. Figure 2 and Table 1 show that the average impact of direct taxes and transfers in the eight Latin American countries in the sample is 2 percentage points, or a 3.6% reduction, compared with the 33.1% reduction in the eight EU countries for which data are reported.<sup>18</sup>

Previous studies for low- and middle-income countries confirm these broad trends. Using the Deininger and Squire dataset, Chu et al. (2004) report that before-tax and after-transfers Gini coefficients in developing and transition economies range between 0.25 and 0.52, averaging 0.38. By contrast after-tax Gini coefficients range between 0.25 and 0.45, averaging 0.34, a difference of four percentage points for developing countries.

The evidence also points to the equalising effect of in-kind transfers. The adjustment of the income definition to include in-kind transfers in the OECD's definition of 'extended' income and the CEQ's definition of 'final' income and the

<sup>17</sup> Brandolini and Smeeding (2009) find a Gini coefficient reduction from 0.45 to 0.29 in 16 HICs. The OECD (2008, 2011) comparative studies find that the distributional impact of direct taxes and transfers is highest in northern and central European countries followed by Anglo-Saxon countries (excluding the US) and by the US and Asian economies (Taiwan and Korea, included in the LIS sample). Results from micro-simulation studies confirm these broad findings. For example, Immervoll et al., (2005b), using the EUROMOD tax-benefit micro-simulation model for 15 'old' EU member states, find that 1998 tax-benefit systems reduced inequality by 36% EU-wide.

<sup>18</sup> For Latin America, similar results are obtained by Goñi, Lopez and Servén (2008), who compare the distribution of market income and disposable income in Argentina, Brazil, Chile, Colombia, Mexico, Peru and find an average reduction in the Gini coefficient resulting from direct transfers and taxes of 4% or two percentage points (from 0.52 to 0.50).

comparison of their distributions with the distribution of disposable income provides an indication of the impact of in-kind transfers on income inequality.

**Table 1: The Gini coefficient by income concept by country**

Country	Market income	Disposable income	Final income	% Δ Gmkt-Gdisp	% Δ Gdisp-Gfinal
Armenia	0.40	0.37	0.36	-7.44	-4.29
Bolivia	0.50	0.49	0.45	-1.99	-9.53
Brazil	0.58	0.54	0.44	-6.04	-19.30
Costa Rica	0.51	0.49	0.39	-3.74	-19.63
El Salvador	0.44	0.43	0.40	-2.27	-6.05
Ethiopia	0.32	0.31	0.30	-5.28	-1.97
Guatemala	0.55	0.55	0.52	-0.91	-4.21
Indonesia	0.39	0.39	0.37	-1.02	-5.38
Mexico	0.51	0.49	0.43	-4.50	-12.09
Peru	0.50	0.49	0.47	-1.98	-5.67
South Africa	0.77	0.69	0.60	-9.99	-14.12
Uruguay	0.49	0.46	0.39	-7.11	-14.00
	Market income	Disposable income	Extended income	% Δ Gmkt-Gdisp	% Δ Gdisp-Gext
Australia*	0.42	0.30	0.26	-28.57	-13.33
Canada*	0.41	0.32	0.26	-21.95	-19.06
Czech Republic*	0.41	0.27	0.21	-34.15	-23.33
Denmark*	0.36	0.22	0.19	-38.89	-11.82
Finland*	0.39	0.24	0.22	-38.46	-9.17
Germany*	0.40	0.28	0.25	-30.00	-11.07
Norway*	0.38	0.25	0.19	-34.21	-22.80
Poland*	0.47	0.33	0.26	-29.79	-21.52
Sweden*	0.37	0.22	0.18	-40.54	-17.73
United Kingdom*	0.45	0.35	0.25	-22.22	-28.00
United States*	0.45	0.37	0.30	-17.33	-18.55

Source: Armenia (Younger et al., 2014), Bolivia (Paz-Arauco et al., 2014), Brazil (Higgins and Pereira, 2014), Costa Rica (Sauma and Trejos, 2014), El Salvador (Beneke et al., 2015), Ethiopia (Hill et al., 2014), Guatemala (Cabrera et al., 2014), Indonesia (Jellema et al., 2014), Mexico (Scott, 2014), Peru (Jaramillo, 2013), South Africa (Inchauste et al., 2014) and Uruguay (Bucheli et al., 2014) in World Bank (2014; data for years 2009-2012). \*OECD (2011; mid-2000s data). Note: The final income and extended income definitions differ, for instance in the treatment of indirect transfers. Comparisons should be treated with caution.

In the OECD countries included in Table 1, in-kind transfers – in education, health, social housing, early childhood education and childcare services, and long-term elderly care services – reduce Gini disposable income inequality further by 5 percentage points (18%). Verbist et al.’s (2012) study on a larger sample of countries reports similar results: in-kind transfers reduce income inequality by 5.7 percentage points (20%).

In-kind transfers have an equalising effect in MICs and LICs too. In the sample of countries covered by the CEQ and World Bank (2014), in-kind transfers are associated with an average five percentage point (10%) reduction in the post-fiscal income Gini coefficient once in-kind transfers – free or subsidised government

services in health and education – are taken into account (Table 1). The marginal contribution of public spending on education and health as a proportion of the total reduction in (final income versus market income) inequality ranges from as low as 12 percent in Ethiopia to as high as one hundred percent in Bolivia and Guatemala (Lustig, 2015).

It is less common for cross-country studies to include indirect taxes. Warren (2008) finds that in twenty-four OECD countries consumption taxes are regressive: disposable income inequality increases in all countries once consumption taxes are taken into account. He concludes that ‘at its simplest, the inclusion of consumption taxes results in the poor getting poorer, the rich getting richer and the gap between the rich and poor widening’ (p. 52). Consumption taxes partly offset the positive redistributive effects of direct transfers and taxes and in-kind public services.

Studies for developing countries using CEQ’s incidence framework find that indirect/consumption taxes are regressive in seven out of twelve countries. They are slightly regressive in South Africa and more regressive in Brazil, Uruguay and Bolivia (see Table 2).

**Table 2: The Gini coefficient of disposable and post-fiscal income by country**

	Disposable income Gini	Post-fiscal income Gini	% $\Delta$ Gdisp-Gpost-fiscal
Armenia	0.37	0.37	0.27
Bolivia	0.49	0.50	2.03
Brazil	0.54	0.55	0.37
Costa Rica	0.49	0.49	-0.61
El Salvador	0.43	0.43	-0.23
Ethiopia	0.31	0.30	-0.98
Guatemala	0.55	0.55	0.92
Indonesia	0.39	0.39	0.26
Mexico	0.49	0.48	-1.43
Peru	0.49	0.49	-0.40
South Africa	0.69	0.70	0.14
Uruguay	0.46	0.46	0.44

Source: Armenia (Younger et al., 2014), Bolivia (Paz-Arauco et al., 2014), Brazil (Higgins and Pereira, 2014), Costa Rica (Sauma and Trejos, 2014), El Salvador (Beneke et al., 2015), Ethiopia (Hill et al., 2014), Guatemala (Cabrera et al., 2014), Indonesia (Jellema et al., 2014), Mexico (Scott, 2014), Peru (Jaramillo, 2013), South Africa (Inchauste et al., 2014) and Uruguay (Bucheli et al., 2014) in World Bank (2014).

Among the developing countries in Table 1, the highest impact on income inequality of total taxes and transfers considered is recorded for South Africa (17.5 percentage points; 23%) and Brazil (14 percentage points; 24%), two of the countries with the highest income inequalities as measured by the Gini coefficient to begin with (0.77 and 0.58 respectively) as well as the highest income inequality even once taxes and spending are taken into account. The poorest country in the sample, Ethiopia, displays the lowest percentage point reduction in inequality brought about by total taxes and transfers (2.3 percentage points), followed by Indonesia (2.5 percentage points).

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## 4.2 Separate studies on taxes and transfers

### 4.2.1 Direct social transfers

The incidence and distributional impact of direct transfers are of special interest here since they cover policies commonly classified as social protection transfers. These include social assistance and social insurance transfers. As is the case with other fiscal instruments, in the basic incidence approach, their redistributive effect is a function of both how progressive a policy is and its size. As outlined in the introduction, comparisons of the incidence and impact of social assistance and social insurance transfers need to consider that these pursue different objectives in addition to or in place of redistribution between individuals – for example, social insurance policies typically pursue income-smoothing over the course of people’s lifetimes and horizontal redistribution objectives. Basic fiscal incidence analysis may not capture and distinguish between these functions adequately. Interpretations of results should take into account these distinctions and the reasons (policy objectives and design and country context) that shape distributional outcomes in practice.

Empirical evidence for countries in Latin America shows that social assistance cash transfers are generally progressively distributed (in absolute terms), with some exceptions, while social insurance transfers on average disproportionately favour the top quintiles (i.e. are regressive in absolute terms, though not necessarily in relative terms), driving the regressivity of social protection spending overall (Lustig et al., 2013; Lindert et al., 2006).<sup>19</sup> High informality rates, the concentration of low-income groups in informal employment and their exclusion from formal social insurance coverage in part explains this result.

Social insurance transfers tend to slightly increase inequality (e.g. Mexico and Peru in Lustig et al., 2013) or have no effect on inequality in most LAC countries. In contrast, social insurance transfers decrease overall inequality in Argentina, Brazil and Chile (Lindert et al., 2006) and in Uruguay (Lustig et al., 2013), where they are less unequally distributed than income from other sources. In LAC, social assistance transfers on average reduce inequality by more than social insurance transfers.

Despite their more progressive distribution, compared with social insurance transfers, the poverty impact of social assistance transfers are somewhat muted due to relatively low unit transfers (e.g. in Peru, Bolivia and Mexico in Lustig et al., 2013). In contrast, in a few ‘high-spending countries’, some social insurance transfers have an important poverty impact due to relatively high unit subsidies; i.e., the small share of transfers that do reach poorer households represents a significant share of their incomes (Lindert et al., 2006).

Evidence for Asian countries shows that spending on direct cash transfers and targeted services actually worsens inequality by 0.49 percentage points on average in the region, reflecting how social protection benefits high-income households and individuals more than those with lower incomes (Claus et al., 2013). Possible reasons for this result include narrow benefit coverage and low coverage of the poor, for instance through the concentration of social protection resources on people living in cities, who are generally better off than rural populations (ADB, 2014; Claus et al., 2013).

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<sup>19</sup> Lindert et al. (2006) examine the targeting, progressivity and inequality impact of public cash transfers in eight Latin American countries: Argentina, Brazil, Chile, Colombia, Dominican Republic, Guatemala, Mexico and Peru.

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A recent comparative study based on the World Bank's ASPIRE database<sup>20</sup> and the international poverty line of US\$1.25 per day per capita PPP, finds that the smallest impact of social protection (including social assistance, social insurance and labour market programmes) on poverty is recorded in SSA, where 1% of the population moves out of poverty thanks to social protection transfers (Fiszbein et al., 2013). Among developing and emerging countries, the impact is largest in Eastern Europe and Central Asia (ECA). Fiszbein et al. (2013) show that although it is in the poorest countries that the impact of social protection on poverty is the lowest, countries that are close in poverty incidence can achieve very different results, reflecting policy differences. They also show that inequality measured using the Gini coefficient is reduced by 10% by social protection programmes, led by ECA averaging over 30% and other regions experiencing a reduction of less than 5% in the Gini coefficient.

#### 4.2.2 In-kind transfers

Poverty and inequality reduction is not the explicit or direct objective of public education and health spending and this may at least partly explain why studies of income distribution tend to omit in-kind transfers, especially in the case of high-income countries. Yet empirically, in many countries, health and education transfers are as large or a much larger part of what social policy does for individuals than the provision of cash transfers (Garfinkel et al., 2006; Brandolini and Smeeding, 2009). Moreover, the constraints to the execution of tax and transfer policies in largely informal economies may be a further motivation to analyse and understand the potential role of in-kind transfers in the redistribution of living standards (O'Donnell et al., 2007).

In high-income countries, in-kind transfers such as education and health spending have a significant impact on poverty and inequality (Davoodi et al., 2003; Garfinkel et al., 2006; OECD, 2011). Garfinkel et al. (2006) examine the redistributive impact of in-kind transfers in Australia, Canada, UK, US, Belgium, France, Germany, Netherlands, Finland, Sweden and confirm the egalitarian impact of non-cash redistribution. They also find that in-kind transfers substantially narrow cross-national differences in the net value of social welfare transfers.<sup>21</sup> In OECD countries, when in-kind transfers are included, the Gini coefficient falls by roughly one fifth, on average, from 0.30 to 0.24. Reduction rates range from 16% to 24% and are more uniform across countries than inequality reduction achieved through cash transfers and taxes (OECD, 2011; Verbist et al., 2012).

The evidence for developing countries is mixed and finds that in-kind social spending is regressive in absolute terms in many countries (it accrues disproportionately to wealthier income groups), although it is progressive in relative terms in most, leading to an equalising effect over all. Results vary depending on the category of spending, with total education and health spending commonly displaying regressive patterns in absolute terms, and some specific sub-components such as primary education spending, progressively distributed in absolute terms (e.g. Castro-Leal et al., 1999; Sahn and Younger, 2000; Filmer, 2003).

For example, a study of the incidence of total social spending – including spending on education, health, social protection, housing, water and sewage, culture, sports and recreation – in countries in Central America, shows that, on average, it is

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<sup>20</sup> Atlas of Social Protection: Indicators of Resilience and Equity, see <http://datatopics.worldbank.org/aspire>.

<sup>21</sup> At the bottom of the distribution, when final income is used instead of disposable income, the difference between the most unequal and the most equal countries (the US and Sweden) shrinks dramatically.

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progressive in relative terms but not in absolute terms (Cubero and Hollar, 2010).<sup>22</sup> Results vary by spending sub-component: total education is progressive in relative terms in all of Central America. However, while primary education is unambiguously pro-poor in all countries in the region, secondary education spending follows an inverted u-shape and tertiary education is regressive in all countries. The distribution of health spending is progressive in relative terms in all of Central America and in absolute terms in four of the seven countries surveyed.

In the education sector, reviews for developing countries find that public education spending is on average regressive in absolute terms (the poorest quintile gains less than 20% of the subsidy, significantly less in most cases), yet that it is more equally distributed than household income or expenditure. The monetary benefit to the poor is considerably lower than that accruing to the rich but, as a share of total household expenditure, is more than the benefit to the rich.

According to Davoodi et al. (2003), the poorest population quintile share of primary education spending is 12.8% in SSA. The middle class captures most of the gain from primary education in these countries. Data on secondary and tertiary education spending in the region show that the poorest quintile accrue 7.4% and 5.2% respectively compared with 38.7% and 54.4% accruing to the richest quintile group. Sahn and Younger (2000) find that in eight African countries (Côte d'Ivoire, Ghana, Guinea, Madagascar, Mauritania, South Africa, Tanzania and Uganda), no services are absolutely progressive with the exception of primary education in South Africa. Primary education is the most progressive social expenditure, in relative terms, among those considered and tertiary education is the least progressive.

In a more recent study on Kenya, Demery and Gaddis (2009) find that 17% of all education spending goes to the poorest quintile, compared with 24% accruing to the richest quintile. Twenty-five percent of primary education spending accrues to the poorest quintile, compared with 10% to the richest, while in tertiary education, 2% of education spending goes to the poorest quintile while the richest quintile gets 70%.

Benefit incidence analysis of the distribution of public health sector expenditure in low- and middle-income countries finds that total health care spending is pro-rich, regressive in absolute terms (Anselmi et al., 2015). When only inpatient or outpatient care is considered, spending is less pro-rich. Inpatient care benefits are slightly pro-poor and the distribution of the benefits from primary health care utilisation appears to be more equitable than that of hospital care, confirming that primary health care expenditure is more progressively distributed than hospital expenditure (Anselmi et al., 2015).

For SSA countries, the Castro-Leal et al. (1999) review of the evidence on benefit incidence of health spending in seven African countries finds that, typically, the share of benefits to the poorest quintile was significantly less than that to the richest 20%. Moreover, the share received by the richer households was far in excess of 20% except in South Africa, where the richer households rely on private care. Health spending is reasonably progressive in relative terms: the subsidy to the poorest quintile amounts to a higher share of that group's total household expenditures than did the subsidy to the richest quintile. The Davoodi et al. (2003)

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<sup>22</sup> In terms of individual spending components, social protection is pronouncedly regressive primarily as a result of the predominance of pensions/social security and their regressive distribution in absolute terms – as confirmed by other studies, see Lindert et al. (2006), reported above. Cubero and Hollar (2010) show that if social security is excluded, social spending is progressive in absolute terms in Costa Rica, El Salvador and Panama.

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and Sahn and Younger (2000) studies obtain similar findings. Among health services, hospital care is less progressive than care at other health facilities (Sahn and Younger, 2000).

The distribution of public health care is pro-rich (higher-income individuals receive more of health spending than those with low income) in most developing countries in Asia (O'Donnell et al., 2007). The share going to the poorest 20% of individuals is lowest in Nepal, at less than 7%, followed by two Chinese provinces at 8-10%. In these cases, and in Bangladesh, India and Indonesia, the richest quintile receives more than 30% of total health spending.

In sum, among the expenditures reviewed, those that are progressive in relative terms will mitigate existing inequality. For example, for countries in Asia, O'Donnell et al. (2007) find that despite being pro-rich in most countries, total public health spending is inequality-reducing, with the exception of India and Nepal.<sup>23</sup> Lustig (2015) finds that health spending is progressive in relative terms and not pro-poor in El Salvador, Ethiopia, Guatemala, Indonesia and Peru.

At the same time, the fact that few categories of spending are progressive in absolute terms is a cause for concern and implies that in many countries even the most progressive social services go disproportionately to wealthy income groups.

Moreover, as highlighted in Section 3, results on the 'equalising' effect of certain categories of spending, such as in primary education, need to be treated with caution. The distribution of benefits across household quintiles may overstate the extent to which they are pro-poor as a result of demographic differences by socioeconomic group – poorer households are generally larger in size, have more children, and have a higher aggregate probability of service utilisation. Additionally, the quality of treatment may systematically differ across socioeconomic groups (with the poor experiencing worse quality services). One way to take demographic differences and variations in need by socioeconomic group into account is to adjust equivalence scales and rely on per adult equivalent expenditures instead of per capita household expenditures as the underlying welfare measure. Studies that adjust equivalence scales to take the extra needs of households for education and health services into account find that the redistributive effect of in-kind transfers declines considerably, though it is not eliminated entirely (e.g. for EU countries see Paulus et al., 2009b and Aaberge et al., 2010).

#### **4.2.3 Taxes**

Cross-country reviews of taxes in developing countries find that the overall tax system is generally regressive (the poor pay more tax relative to income) (e.g. Gemmell and Morrissey, 2003; Cubero and Hollar, 2010). On specific taxes, they find that personal income tax is generally progressive and indirect taxes are generally regressive. In their review of studies on four African countries (Côte d'Ivoire, Guinea, Madagascar and Tanzania) Gemmell and Morrissey (2003) find that corporate taxes are U-shaped (regressive, then progressive), and property taxes are progressive.

For countries in Central America, Cubero and Hollar (2010) find that VAT and sales tax are clearly regressive when assessed relative to income;<sup>24</sup> excise taxes are also regressive except for in Costa Rica and Guatemala (in Honduras and

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<sup>23</sup> In Hong Kong SAR, Malaysia and Thailand, total public health spending is both inequality-reducing and pro-poor.

<sup>24</sup> As commonly observed, the regressivity is lower if measured relative to consumption.

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Nicaragua they are the most regressive tax). International taxes (mostly import tariffs as export tariffs are very small in the region) are highly regressive in most Central American countries.

For Honduras, Gillingham et al. (2008) find that VAT is progressive (less so than income tax) because exempt items are a large share of the consumption of households in the lower quintiles. They also find that excise taxes are regressive, while among direct taxes income tax is quite progressive and corporate income tax is slightly progressive overall.

A study of tax reform in Ethiopia examines the incidence of the VAT introduced to replace a sales tax and finds that the VAT is progressive, but less than the sales tax it replaced (Muñoz and Cho, 2003). The reform has increased the tax payment burden for the average household and poorer households are harder hit from the shift in the tax regime because their increase in tax burden is more than three times the portion of the highest decile. In this case, most of the exempt goods and services are disproportionately consumed by the relatively well-to-do, so the exemptions cannot be justified on equity grounds.

Evidence from cross-country studies for high-income countries reveal similar patterns. O'Donoghue et al. (2004) extend EUROMOD to include consumption taxation in 12 EU countries and find that consumption taxes are regressive while most direct taxes are progressive. They show that consumption taxes represent a share of income of the bottom decile that is, on average, three times higher than that for those in the top decile. Excise duties impact four times more heavily on the income of the lowest decile relative to the top decile. In contrast, most direct taxes and social security contributions are progressive, with income taxes typically being more progressive than employer social security contributions. As mentioned above, Warren's (2008) review of consumption taxes in OECD countries finds that beyond methodological differences, all studies agree that consumption taxes have a significant regressive impact on the distribution of household disposable income. This contrasts with the equalising impact of personal income taxes, which fall more heavily on higher income groups.

Evidence on the distributional impact of personal income taxes in Central American countries shows that it is small (Cubero and Hollar, 2010). Although they are generally progressive, they contribute on average only about a quarter of the small tax intake in these countries and their overall redistributive impact is limited. In contrast, because VAT and sales tax are the single most important source of tax revenue for most Central American countries, their pronounced regressivity has a tangible effect on overall income distribution.

For countries in Asia, Claus et al. (2012) find that the overall impact of progressive personal income tax is small (somewhat smaller in Asia than in the rest of the world); corporate income tax revenue is regressive and reinforces inequality; social security contributions and payroll taxes increase income inequality; and general taxes on goods and services are regressive, as are excises and custom duties.

The above results raise the question of whether and to what extent regressive taxes offset progress in poverty and inequality reduction achieved through progressive social spending and taxes.

Lustig et al. (2013) find that in Bolivia, Brazil and Uruguay, consumption taxes temper the redistributive impact of the fiscal system and that in Bolivia and Brazil consumption taxes more than offset the poverty-reducing impact of cash transfers. In the case of Brazil, consumption taxes have a clear significant negative effect on the poor: 27% of the moderate poor are pushed down into extreme poverty and

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4.5% of the extreme poor are pushed into ultra-poverty when comparing post-fiscal income poverty rates with market income poverty rates. Also, consumption taxes more than offset the poverty-reducing effect of direct cash transfers and the moderately poor are net-payers to the fiscal system (before imputing the value of in-kind transfers). The reversal is also important in Uruguay: post-fiscal income extreme poverty equals 2.3%, which is still half as much as net market income extreme poverty at 5.1%, but higher than disposable income extreme poverty, which equals 1.5%.<sup>25</sup>

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<sup>25</sup> Note that in Brazil and Uruguay, however, the poverty-increasing impact of indirect taxes may be overestimated due to the assumptions of no evasion of indirect (consumption) taxes (Uruguay) and no differences in evasion rates along the income distribution (Brazil) (Lustig et al., 2013).

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# 5 Social protection financing

Limited financial resources are commonly listed as one of the main constraints to the implementation and extension of social protection. In an attempt to address this issue, developments in social protection analysis in recent years include a growing number of tools designed to cost social protection policies and initiatives to carefully match alternative policy scenarios with the assessment of available fiscal space and its projected evolution (ILO and IMF, 2012).<sup>26</sup>

Examples of social protection costing and fiscal space analysis include recent studies for Mozambique (Cunha et al., 2013), Vietnam (Bonnet et al., 2012) and Uganda (World Bank and DFID 2014; IMF, 2014). For Mozambique, a scenario of quasi-universal social protection coverage for the vast majority of the population would lead to an increase in spending to around 2.8% of GDP; for Vietnam, the cost of implementing a pension for the elderly, targeted child benefits for all poor children and working-age benefits is estimated at around 2.3% of GDP; for Uganda, simulations show that interventions that could reduce poverty by as much as 10% would only cost about 0.3% of GDP. One of the main conclusions drawn from these and other studies is that adequate social protection coverage needs not pose a threat to fiscal sustainability and is affordable (ILO and IMF, 2012; Bonnet et al., 2012; Cunha et al., 2013).<sup>27</sup>

Considerations of fiscal space generally originate from a concern for generating additional revenue for policy financing without threatening government solvency. Yet the composition and sources of revenue, or ‘financing mix’, also matter to distributional outcomes and policy sustainability (Barrientos, 2013; Bastagli et al., 2012; Delamonica and Mehrotra, 2008). These in turn determine the net effects of policy in practice. If one of policy’s primary objectives is to reduce poverty and inequality, then the challenge lies in creating fiscal space that will be available over time, does not jeopardise the stability of a country’s economy and does not have adverse impacts that ultimately work against poverty and inequality objectives (Heller, 2005; Handley, 2009).

There are six main options available to governments for expanding fiscal space to finance social protection (Heller, 2005; Handley, 2009; Hagen-Zanker and

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<sup>26</sup> Fiscal space may be defined as the availability of additional resources to increase the government’s expenditure on a specific sector or project or, as Heller (2005) puts it, ‘budgetary room that allows a government to provide resources for a desired purpose, without prejudicing the sustainability of its financial position’.

<sup>27</sup> Some of these studies also include suggestions on the potential sources of additional revenue required for the proposed expansion. For Vietnam, following a review of revenue sources and their use, the ILO (2012) indicates that a combination of increased personal income tax by 1.3% of GDP and a 1% increase of the value-added tax rate could cover the cost of the proposed set of measures to close the social protection floor gap by 2017/18. The World Bank, DFID and IMF (2014) indicate that, in Uganda, options include devoting a percentage of the existing oil fund and part of the proceeds of specific tax measures and donor resources in the short term as well as increasing reliance on oil-related revenue over time to social protection expansion.

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Tavakoli, 2012; ILO, 2014):<sup>28</sup> additional domestic resource mobilisation, reallocating spending and improving the financial management of public expenditure, additional external financing through grants, reducing debt,<sup>29</sup> increased borrowing<sup>30</sup> and seigniorage.<sup>31</sup> Here, the focus is on the first three options as they either play a central role in the financing of social spending in LICs and/or hold most promise for funding additional social protection measures on a sustainable basis (ILO and IMF, 2012; ILO, 2013; Monchuk, 2014).

The next sub-section reviews the options of expenditure reallocation and additional external resources for social protection financing. Domestic revenue mobilisation through taxation is the following sub-section, providing examples of ways in which specific revenue sources have been associated with social protection financing, where these links have been made by policymakers and official documents in the establishment of what Barrientos (2013) refers to as ‘narratives’ of fiscal structure and social protection financing.

## 5.1 Expenditure reallocation and additional external financing

Expenditure reallocation involves reducing expenditure on a less effective and/or low priority spending area and increasing spending in another area of greater priority. In practice, tensions between competing priorities are common, with spending areas that can be less effective in directly tackling poverty being given high priority. The ‘rigidity’ or ‘stickiness’ of public expenditure is one of the factors that determines the extent to which this option can be implemented in practice (Handley, 2009).

Examples of expenditure reallocation reforms that have freed up resources for social protection include reductions in defence spending. In Costa Rica, the abolition of the army in 1948 freed a large volume of resources that were directed at human capital accumulation programmes, including social protection. In South Africa, a significant reduction in defence expenditure between 1983 and 2006 - from 15% to 5% of total government expenditure - was accompanied by the steady increase in social protection financing (Duran-Valverde and Pacheco, 2012).

Another area in which spending reallocation has been attempted is from universal subsidies to targeted social protection transfers. In the case of energy subsidies, such as fuel subsidies, advocates of their phasing out point to the distortions in resource allocation generated by encouraging excessive energy consumption, depressing private investment and their regressive distribution as they are disproportionately captured by higher-income households (IMF, 2013b). Replacing general subsidies of this kind with targeted transfers aimed at the products and

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<sup>28</sup> Most countries do not base their social protection financing on just one source on funds and rely on a combination of sources in their efforts to generate fiscal space. In fact, diversification of financing sources is seen as a key factor in ensuring sustainability (Duran-Valverde and Pacheco, 2012).

<sup>29</sup> Examples of countries that made use of reductions in debt stock to specifically finance social protection policies include Ghana and South Africa. In both countries, fiscal space created by the general reduction in the overall debt stock was used to expand social transfers (Duran-Valverde and Pacheco, 2012; Harris, 2013). In Ghana, it enabled the initial financing of the ‘Livelihoods Empowerment Against Poverty Programme’. In Nigeria, the debt service saved through the cancellation and buy-back of the debt, amounting to \$1 billion annually, was earmarked for poverty reduction in the form of a Virtual Poverty Fund, designed to boost progress towards the Millennium Development Goal targets (Bachelet et al., 2011).

<sup>30</sup> Whether this is a viable option depends on current debt-to-GDP ratios, future revenue projections, risk of debt default etc. Current borrowing reduces future fiscal space and can also result in the crowding out of private sector borrowing and lower economic growth, another channel through which future fiscal space is lowered (Handley, 2009).

<sup>31</sup> Seigniorage leads to temporarily greater resources for the government, but the increase in money supply commonly leads to increased inflation, with potentially negative effects on the economy and society, particularly on the poor, and on future fiscal space.

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services predominantly consumed by the poor could generate fiscal savings which can be directed at other, more pro-poor forms of social protection (Harris, 2013).

In several countries, subsidy reform has been accompanied by the expansion of social protection programmes better targeted to low-income and vulnerable groups. This is the case of Indonesia, where an unconditional cash transfer programme covering 35% of the population was introduced in coordination with a fuel subsidy reform (IMF, 2013b). Plans for the significant reduction of electricity subsidies in Pakistan, include significant increases in the national targeted Benazir Income Support Programme (IMF, 2014b). The phasing out or removal of universal subsidies can penalise large segments of the population in addition to those classified as 'poor' and can encounter public resistance if they are not adequately planned and implemented (in some countries, such as Nigeria, attempts to remove universal subsidies have been reversed for this reason). Adequate planning includes a careful analysis of the scale and distribution of the costs of phasing out a subsidy, the elaboration of alternative schemes and mechanisms to ensure that these are implemented with the savings obtained.

Improvements in the financial management of public expenditure can also lead to important savings and reallocation of financial resources for social protection spending (Hagen-Zanker and Tavakoli, 2012). These may take time to implement (a thorough Public Expenditure Management Review is usually required to reveal where efficiency savings can be made) and may encounter challenges by running against vested interests. In Brazil, the launch of the *Bolsa Familia* reform in 2003 led to the introduction of a single national public cash transfer targeted at low-income households and administered by a single ministry through the consolidation of five existing national cash transfers. These were previously run by five different ministries and targeted overlapping groups using different administrative instruments, leading to duplications and inefficiencies. The consolidation and rationalisation of existing social protection programmes contributed to the expansion of total population coverage and increases in transfer levels (Bastagli and Veras Soares, 2013).

The mobilisation of additional external resources is commonly used for social protection financing in LICs and some MICs and can be a powerful instrument for initiating new programmes and expanding existing ones. At the same time, high or exclusive reliance on external funding raises issues of country ownership, policy legitimacy and sustainability (Bachelet et al., 2011; Barrientos, 2013; Hagen-Zanker and McCord, 2011).

In practice, international donor financing plays an important role in social protection in most LICs. For example, donors finance 68% of spending on safety nets in Africa and almost 73% in low-income Africa. In the case of Ethiopia, donors finance almost 100% of the Productive Safety Net Programme (Monchuk, 2014). Moreover, several countries depend increasingly on donor funds to finance their safety nets. In Burkina Faso for instance, donor funding has increased almost five-fold in recent years (ibid.). A World Bank study shows a clear increase in the number of countries in which the Bank is engaged in social safety net support (Milazzo and Grosh, 2008).

External financing can be critical to launching and extending social protection and can act as a catalyst for additional domestic efforts on social protection. A recent example is provided by Mozambique, where the role of development partners was central in advocating an increase in budget allocations for the implementation of the new social protection strategy and in developing the country's operational plan. The close collaboration and coordination between development partners in support

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of the Government of Mozambique contributed to the government's decision to increase social protection domestic allocations by 40%, reaching 0.25% of GDP in the 2012 budget. The Government also committed to increase budget allocations over the next few years to 0.8% of GDP (ILO and IMF, 2012; ILO, 2013).

At the same time, high or complete reliance on external funding can have implications for policy legitimacy and sustainability over time. An example is provided by the case of conditional cash transfers (CCTs) in Nicaragua, where, the attempt to integrate the CCT into the country's broader social protection system after it had been set up outside national public institutions and implemented with external funding met with resistance. Tensions arising from the widespread perception that the programme was largely donor driven contributed to the discontinuation of Nicaragua's CCT, despite its positive impacts (Bastagli, 2010).

When donors favour short-term horizons and bypass national institution-building efforts, the reliance on external financing can lead to low country ownership and challenges in policy continuity and sustainability. Efforts to increase external funding and donor aid could reflect the importance of mid- to long-term programming and investments in social protection (Barrientos, 2007; Barrientos, 2013). National ownership, policy legitimacy and continuity can be promoted through the close cooperation between national governments and donors and through agreements on the transition to a nationally financed social protection system.

## 5.2 Tax revenue and social protection financing

Compared with alternative options to raising government revenue, taxation displays some distinguishing features and potential advantages. In particular, the literature links state formation and consolidation to the capacity of the state to tax and underscores taxation's potential role in establishing and strengthening government legitimacy and state-citizen relations (e.g. Di John, 2010; Zolt and Bird, 2005). By ensuring sustainable funding of social policy and public investments and promoting accountability of government to taxpaying citizens, effective tax systems can be associated with a 'virtuous circle', whereby the generation of government tax revenues leads to improved service provision which in turn increases citizens' willingness to pay taxes (Fjeldstad and Heggstad, 2011).

The fairness of the tax system is critical in this respect. The unfair distribution of the tax burden, if associated with the unequal distribution of income and wealth, can result in low levels of trust in institutions, low tax morale and high tax avoidance and evasion (Zolt and Bird, 2005). Another critical factor concerns tax diversification. Especially in countries where tax collection relies predominantly on natural resources, state leaders may be less accountable to their citizens because such revenues are 'unearned' (Di John, 2010). High reliance on revenue from natural resources is also associated with volatility, instability and financing sustainability concerns.

As discussed in Section 2, in LICs and MICs where increases in tax revenue as a percentage of GDP have been achieved, they are mainly associated with the expansion of indirect taxes, such as consumption taxes, and to the taxation of natural resources, against declining trade tax revenues, modest gains in personal income tax and limited revenue from property and corporate income tax. Increased government revenue from indirect taxes and natural resources represents an important opportunity. At the same time, it points to the need for additional careful consideration of equity and sustainability implications for the reasons outlined above. The following paragraphs provide examples of the ways in which additional

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government revenue has facilitated social policy in practice, focusing on the cases of VAT reform, commodity taxation and payroll taxes.

The expansion of VAT and associated increases in revenue have been linked to new investments in social spending. For example, in Ghana, increases in the VAT from 12.5% to 15.0% in 2004 generated fiscal space which was used to finance the new national health insurance scheme, providing estimated additional revenues for the budget of over 1% of GDP per year (Handley, 2009). In Ethiopia, the potential for additional revenue generated through VAT increases to be utilised for social protection spending has also been discussed (Muñoz and Cho, 2003).

Evidence of the potentially regressive nature of consumption taxes can be addressed through specific policy design options. An example is given by the practice of ensuring that the taxes on goods that are most important to the consumption bundle of the poor are maintained low (e.g. zero or reduced VAT rates), for instance through exemptions for basic necessities. The introduction of higher rates on luxuries is another possibility.

Some experts warn that VAT rate differentiation does a poor job of redistributing to poor households while involving loss of revenue, generating incentives for rent-seeking and making administering the tax system and collecting revenues more difficult. Administrative and compliance costs could be especially high in developing countries as a result of weak administrative capacity (Abramovsky et al., 2013). Such concerns support the case for shifts towards broader, simpler VAT, with a single rate and fewer exemptions, to help reduce administration and compliance costs and give fewer incentives and opportunities for fraud and evasion. However, other experts reiterate that in developing countries, the limited alternative instruments for redistribution and the high reliance on consumption taxes mean that reduced rates and/or exemptions of necessities such as basic foodstuffs may be warranted (e.g. Zolt and Bird, 2005). Moreover, Abramovsky et al. (2015) make the point that having different rates on different goods and services may actually reduce distortions to consumption and economic activity by minimising tax evasion and incentives for home and informal production. When countries face significant problems with VAT evasion and economic informality, lower tax rates may be warranted for those goods and services particularly susceptible to informal transactions, such as food (Abramovsky et al., 2015).

Revenue from natural resources is a second source associated with increases in government resources in LICs and MICs. Countries that are producers and exporters of primary commodities and are resource rich have exploited international demand and favourable prices to raise revenue (Hujo, 2012). Examples of social protection policies supported by natural resource revenue include Bolivia's universal pension, *Renta Dignidad*: a 32% tax on the production of hydrocarbons introduced in 2005 with the aim of redistributing mineral rents to the poor facilitated the expansion of Bolivia's universal pension. In Norway, a considerable part of the country's oil wealth has been transferred to citizens in the form of increased welfare spending on social protection and social services (UNRISD, 2008).

One of the shortcomings of this source of financing is its unpredictability and fluctuation. The reliance on highly volatile resources risks jeopardising the sustainability of policies. In the case of Bolivia for instance, while *Renta Dignidad*, is an acquired right for recipients, recent declines in exports and in prices of natural gas are in practice threatening its sustainability (UNRISD, 2008; Harris, 2013). A related concern is the potential resource curse or Dutch disease resulting from the potential increase in volatility, corruption and mismanagement, and crowding out

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of less profitable sectors associated with the increased exploitation of natural resources.

One option used to address these concerns, while channelling additional resources to social protection, is the establishment of funds such as long-term pension funds. In Norway, the Government Pension Fund Global aims to ensure sustainable and transparent use of income from the oil sector by channelling all proceeds, in terms of tax revenue and gains from direct public ownership, into this fund (Hujo and McClanahan, 2009).

Payroll taxes, or employer and employee contributions, represent a third source of financing for social protection expansion. Although they are typically used to finance social insurance programmes, they are also used, in combination with general tax revenues, as a funding source in partially contributory programmes. This is the case in Colombia's subsidised health scheme, for example, and in Brazil's social pensions (Bastagli and Veras Soares, 2013; Harris, 2013).

In LICs and MICs, the persistence of high informality acts as a constraint. However, initiatives to promote participation in contributory programmes have proved successful. Examples include making contributions payments compulsory, extending programme participation to broader categories of companies and employees, reducing the costs of tax compliance and regulation, and proactive strategies to enhance the perceived benefits of formalisation through gaining access to credit, training, dispute resolution and other services (e.g. Joshi et al., 2013).

In Thailand, the expansion of social contributions was achieved through the extension of programme coverage from enterprises with 20 or more workers to any company with one or more workers. In Namibia, following the approval of the Social Security Act in 1994 that established that both employers and employees had to pay contributions, the total number of employers and employees registered in social security funds rose from 2,730 employers and 2,598 employees in 1996 to 38,703 employers and 446,921 employees in 2006 (Duran-Valverde and Pacheco, 2012).

An argument that warns against increases in social contributions is that they may be associated with higher labour costs and may increase labour market informality. Yet country experience indicates that this is not necessarily the case. For example, Costa Rica has one of the highest rates of nominal and effective social contributions in all Latin America while displaying one of the lowest informality rates. The country also appears among the top countries in terms of competitiveness, well above regional averages (Duran-Valverde and Pacheco, 2012).

The examples discussed above cover the three domestic revenue sources commonly linked with improved fiscal space for social protection in LICs and MICs in practice. Policy reform options aimed at generating fiscal space in addition to these are beyond the scope of this paper. However, they represent important opportunities and include the distinctive 'revenue gaps' in LICs and MICs linked to the under-reliance on specific tax instruments and to tax avoidance and evasion. In particular, the under-taxation of land and property, the high number of tax exemptions and incentives (in sectors such as mining) and the practices of tax avoidance and evasion could be reviewed and addressed (e.g. Moore, 2013).

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# 6 Conclusion

This paper aims to contribute to efforts to include tax considerations in social protection analysis and design by discussing the key methodological issues in carrying out joint distributional analysis, reviewing the evidence on the incidence and distributional impact of taxes and transfers and discussing alternative tax revenue sources and their implications for social protection financing and sustainability.

## 6.1 Methods

Recent efforts to improve the comprehensiveness and rigour of analytical tools available for basic incidence analysis, coupled with improvements in data availability and quality, have led to a growing number of studies on the distributional impact of taxes and transfers. They have also contributed valuable information on the effectiveness of alternative policy parameters.

Such developments have occurred for a range of countries. Still, the evidence base for low- and middle-income countries remains considerably weaker than for HICs. In part, this reflects the lower data availability and quality for poorer countries and points to the importance of renewed efforts to improve data where it is absent or of poor quality. It also reflects policy composition and the reliance in many LICs and MICs on taxes and transfers for which it is more technically challenging to establish incidence (e.g. indirect taxes compared with direct taxes).

In basic incidence analysis, attention needs to be paid to the key methodological issues identified in this paper and including: the comprehensiveness of the income concepts used, tax and spending incidence assumptions and the valuation of social spending.

Expanding income concepts beyond market and disposable income definitions that take direct taxes and transfers into account is especially important if tax-transfer distributional analysis is to be meaningful for LICs and MICs. The high share of indirect taxes in total tax revenue and the comparatively low share of spending on direct transfers in developing countries, highlighted in Section 2, point to the importance of including indirect taxes and public transfers in-kind in fiscal policy analysis for these countries. The inclusion of such policy instruments presents a challenge, as highlighted in Section 4, since the identification of beneficiaries and of on whom the tax burden falls is especially difficult for these categories of spending and taxation. The inclusion of additional taxes and transfers, in addition to direct taxes and transfers, implies higher reliance on assumptions and on detailed data, making it all the more essential for studies to provide careful documentation of the assumptions and data decisions made.

Finally, basic incidence analysis could be usefully complemented with other types of distributional analysis, for instance based on microsimulation models, to help address some of its limitations. In particular, the static nature of basic incidence analysis, its omission of potential behavioural and other second-round effects, poses a constraint on the policy implications that may be drawn from this sort of

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analysis and on the types of policies that can be appropriately assessed (e.g. the case of pay-as-you go pensions). Particular care should be exercised when drawing policy conclusions from the findings of basic incidence studies precisely because they provide at best an approximation of first round static effects.

## 6.2 Policy implications

The review of the evidence highlights how taxes and transfers can have a significant impact on poverty and inequality. For example, in the OECD countries reviewed here, direct taxes and transfers alone contribute to an average 30% reduction in income inequality. Their comparatively lower distributional impact in developing countries is associated with lower tax revenue and social spending levels. It is also linked to variations in the composition of revenue and transfers.

In the area of taxation, given the dominance of taxes on consumption in the tax structure in most LICs and MICs, the distributional consequences of consumption taxes are of particular importance. In the area of social protection transfers, low transfer values accruing to low-income groups and low coverage limit the distributional impact of policy.

Although some patterns of the incidence and distributional impact of specific tax and transfer categories emerge from the findings of basic incidence analyses, there is limited scope for generalisations. Tax and transfer policy design and implementation details matter and can be adjusted to take equity concerns into account together with other policy priorities, such as generating revenue.

Compared with social protection financing alternatives, such as expenditure reallocation and additional external financing, taxation displays some key distinguishing features and potential advantages. These include the potential for tax systems to promote government accountability and, in turn, improved service provision and citizens' willingness to pay taxes.

The low average tax to GDP ratio increases in LICs over the last two decades explain, at least in part, the persistent high reliance on external financing for social protection in LICs. Moreover, where increases in tax revenue have been recorded, they have been associated with the expansion of consumption taxes and growing natural resource revenue. While these represent an important opportunity, they also raise equity and sustainability concerns. In addition to adopting tax policy design measures to address the latter, there is scope to extend contributory social protection and tackle the distinctive 'revenue gaps' in LICs and MICs arising from the under-reliance on specific tax instruments and to tax avoidance and evasion.

Social protection and tax policy are commonly examined separately, yet they are strongly linked. As this paper has shown, tax revenue levels and 'mix' matter to the resources available for social protection financing and their sustainability over time. They also matter to the net incidence and distributional impact of fiscal policy. If poverty and inequality reduction are central public policy concerns, then a more careful consideration of taxes and transfers and the ways in which they operate jointly is warranted.

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ISSN (online): 1759-2917

ISSN (print): 1759-2909

Cover image: Alex Sutton

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