



Working paper

Financing social assistance in lower-income countries post-Covid-19

An exploration of realistic options

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Key messages

There is a fundamental and large funding gap that hinders the expansion of social protection coverage to help reduce extreme poverty in lower-income countries.

Covid-19 prompted a commendable expansion of these programmes in the short term, but the fiscal policy response was mainly in higher-income countries. Current global economic pressures on growth and prices will put fiscal pressure on governments to retrench, making it difficult for them to sustain the increases in coverage introduced during the pandemic.

The financing situation prior to Covid-19 was covered in earlier ODI papers. We now revisit the problem of financing social assistance in lower-income countries. Our argument responds to two high-level, but increasingly unrealistic, proposals in the policy debate: that the

financing gap will be solved either by a massive increase in the overall level of external funding, or that by 2030 'domestic revenue mobilisation' (DRM) alone will be able to fill the gap in low-income countries (LICs) and lower-middle-income countries (LMICs).

We plot a middle path through these suggestions by exploring the scope for four different approaches to addressing financing constraints: 1) a more realistic appreciation of how much domestic taxation LICs and LMICs can raise; 2) an exploration of the potential to further rebalance domestic spending in LICs and LMICs towards social assistance; 3) what it would mean if existing social sector aid flows were rebalanced towards social assistance to bring these in line with the relative Sustainable Development Goal (SDG) costs of the different sectors; and 4) understanding how scaled-back approaches to the transfer design of social floors could improve coverage and be poverty-focused but at much lower costs.

The aim of this paper is not to offer definitive proposals but to illustrate the potential scale of these four different approaches to prompt further analysis and debate on both the technical and political questions involved ahead of the United Nations SDG Summit in 2023.

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Acronyms

DAC	Development Assistance Committee (OECD)
DEA	data envelopment analysis
DRM	domestic revenue mobilisation
GDP	gross domestic product
GNI	gross national income
HIC	high-income country (World Bank definition – GNI per person above \$13,205 a year)
ILO	International Labour Organization
IMF	International Monetary Fund
LIC	low-income country (World Bank definition – GNI per person less than \$1,085 a year)
LMIC	lower-middle-income country (World Bank definition – GNI per person \$1,086–\$4,255 a year)
MIC	middle-income country (World Bank definition – GNI per person \$1,086–\$13,205 a year)
ODA	official development assistance (OECD DAC definition of aid)
OECD	Organisation for Economic Co-operation and Development
PPP	purchasing power parity
SDG	Sustainable Development Goal
SFA	stochastic frontier analysis
TE	Tax Effort
UMIC	upper-middle-income country (World Bank definition – GNI per person \$4,256–\$13,205 a year)
UNDESA	United Nations Department of Economic and Social Affairs
UNICEF	United Nations Children’s Fund
WHO	World Health Organization

Executive summary

Earlier ODI research confirmed the general view that the financing challenges for addressing extreme poverty were greatest in low-income countries (LICs). Not only were the extreme poverty gaps much larger in LICs, but these countries also had the least capacity to self-finance social assistance at the scale needed to reduce extreme poverty. Post-Covid-19, ODI estimated that nearly all LICs and some lower-middle-income countries (LMICs) were unable to afford even half the costs by 2030, even if they maximised domestic revenues to fund new programmes through a combination of tax reform and tax increases. These countries were therefore the least able to commit to funding an expansion of social protection to combat poverty and vulnerability. Such funding would require both a ‘step change’ to build systems and fund the initial nationwide scale-up, and a longer-term commitment to ongoing future financing to meet increases in demand that will grow with demographic trends. In this paper, we focus on non-contributory social assistance as this is the main form of social protection that can be put in place to address poverty in the next five to eight years in LIC settings with large informal economies.

The World Bank’s latest Poverty and Shared Prosperity report reveals how Covid-19 has increased extreme poverty rates in the short to medium term, and raised the profile of how to fund social assistance to address increasing extreme poverty in LICs (and LMICs).

In view of the growing need, this paper explores four key avenues for addressing the financing constraints that LICs and LMICs now face:

- 1) increasing tax revenues;
- 2) increasing the share of total revenues allocated to social assistance;
- 3) increasing donor support by rebalancing their aid budgets in favour of social assistance; and
- 4) reducing costs by using categorical approaches to target social assistance when developing social floors.

The key conclusions of this analysis are:

- 1) There is much less potential in lower-income countries to increase their tax revenues than is often claimed. While tax/gross domestic product (GDP) ratios in lower-income countries are less than those of Organisation for Economic Co-operation and

Development (OECD) countries, this primarily reflects fundamental structural differences in their economies, which will only change gradually over time. Our estimates suggest that the average LIC and middle-income country (MIC) is currently collecting around 86% and 84% respectively of their revenue potential. Even if they were to meet their full potential tomorrow, for LICs the absolute values of unmet revenue potential are low, at around just \$20 per capita.

- 2) The scope for the lower-income countries to increase their share of total revenues allocated to social protection in general, and social assistance in particular, is much less clear (than for tax/GDP). There is no robust theoretical framework to formally assess the relative merits of switching spending between broad sectors (for example, from social sectors to infrastructure spend or even between the health and education sectors). Our analysis is therefore more exploratory and illustrative. Our review of Sustainable Development Goal (SDG) costings and international spending targets shows that the relative financing needs of social protection, health and education are similar. But we also note there is no shortage of reasons why countries at different stages of development might choose to prioritise one social sector over another, or indeed prioritise infrastructure over social sectors. Our analysis of new figures on the latest spending patterns shows that both LICs and LMICs spend more on education than health or social protection. If a balanced investment approach were the objective, there would seem to be limited scope for LMICs to increase their social protection share (as this is already higher than health). By contrast, if LICs imitate LMICs' spending pattern as they grow, that would imply a doubling of the share they allocate to social protection from 5% to 10%. Such an increase would contribute to ensuring the poorest can access education and health services so that no-one is left behind. This change could occur through a combination of committing a high proportion of future increases in government revenues (from new sources and/or economic growth) to social assistance and reallocating existing expenditures (such as replacing fuel subsidies with social assistance). The change could be funded by a reduction in the shares of any other sector, not necessarily education or health. However, such change could well only occur over a long time period. Latest World Health Organization (WHO) analysis of trends in health spending suggests that an increase from 5% to 6% by 2030 would be a more realistic pace of change. What is clear is that the old targets for social protection spending – first 4.5% of GDP and more recently 2.9% of GDP – are unrealistic for LICs, as that would require spending share to jump from 5% to 32% and 21% respectively.
- 3) There would seem to be some scope for donors to increase social assistance's share of aid to bring it in line with both needs and the

relative SDG costs for each social sector. The case for doing so is based on the scale of extreme poverty, the growing interest in lower-income countries in developing long-term social assistance financing plans and the limited potential options for increasing domestic revenues (or increasing borrowing), at least until 2030. One key option for rebalancing would be to draw on the increasing flows of aid for climate finance as social protection can play a key role in addressing climate adaptation and could be a key element of any loss and damage payments.

- 4) There is clear potential to both control costs and target categorical transfers to poorer populations within countries to ensure support for the most vulnerable and to reduce poverty. This involves having a clear understanding in each country of:
 - a) where children, old people and people with disabilities are within the overall household welfare distribution and understanding the effects and impacts of benefits to such individuals at household level;
 - b) the differing patterns of household formation that protect extended family members from lifetime or other risks; and
 - c) who currently receives government transfer programmes and who indirectly benefits from these transfers through co-residence.

Matching financing to needs

A key element of any funding strategy for social assistance is to clearly align the types and flows of potential funding to match population needs and to effect poverty reduction.

When we consider funding needs, there are two main requirements: the immediate costs of reform and initial expansion of social assistance (both capital and recurrent) to properly cover the current population, and then the on-going costs of transfer programmes that can keep up with changing demographics and inflation. The first of these funding needs is the focus of this paper. But the underlying allocation of increasing revenues from economic growth towards maintaining levels and coverage of social assistance lies more squarely with domestic fiscal policy.

Overall conclusion

Covid-19 and climate change have increased both the need for social assistance and the scale of the financing constraints LICs (and increasingly LMICs) face in funding social assistance. While increasing tax revenues will help, there would also appear to be some scope to address financial constraints by rebalancing both domestic and donor spending in favour of social assistance, and by

adopting simple categorical targeting approaches when social floors are developed.

1 Introduction

The existence of widespread extreme poverty remains the most egregious expression of the global community's failure to protect even the lowest of living standards at a time of rising inequality between the world's poorest and richest citizens.

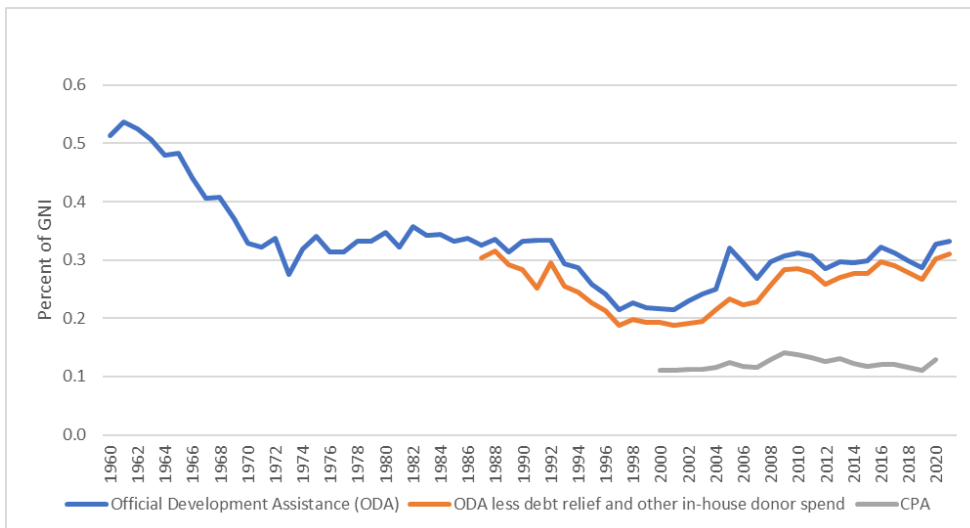
It is no political accident that eliminating extreme poverty was the first international public goal agreed in 2000, and was agreed again in 2015. One recent forecast (World Bank, 2022) suggests that there will be only a gradual reduction in 'extreme poverty' over the next eight years with 574 million people (6.8% of the world's population) still living in extreme poverty in 2030. While many of the extreme poor will be in MICs, poverty rates as a proportion of the population are expected to remain the highest in LICs. Even before Covid-19 there was a marked difference, with 44% of the population in extreme poverty in LICs compared with 10% in LMICs.¹

Previous ODI research set out the key actions needed to tackle extreme poverty (Greenhill et al., 2015; Manuel et al., 2018; 2019; 2020), with the provision of universal education, healthcare and social protection complementing the benefits of expected growth. In common with other researchers (e.g. Durán-Valverde et al., 2019; ILO, 2020), ODI has highlighted the financing of these three social sectors as a key constraint, especially in lower-income countries where the levels of extreme poverty are highest. Even if these countries maximise the tax revenues they could raise, 34 of them (28 of which are LICs) are so severely financially challenged that they could not afford half the costs of universal access to these three social sectors (Manuel et al., 2020). Post-Covid-19, ODI estimated that to cover at least half the costs, these countries would require an additional \$77 billion a year (Manuel et al., 2020). ILO (2020) reached similar conclusions, noting that LICs alone faced a funding gap of \$78 billion. Previous ODI reports (Greenhill et al., 2015; Manuel et al., 2018; 2019; 2020) noted that such gaps could be financed if all OECD donor countries doubled their collective aid effort and met the United Nations aid target of 0.7% of gross national income (GNI) to generate an extra \$200 billion a year. But collective donor aid effort has remained remarkably constant at around 0.3% of donor GNI over the last 50 years, despite repeated efforts to find new additional sources. Covid-19 did result in a small increase in official development assistance (ODA) in 2020 (see McCord et al. (2021) for

¹ World Development Indicators, accessed 13 December 2022.

a detailed analysis), and this was sustained in 2021. However, an added challenge is that, more recently, an increasing proportion of ODA is being used to finance the domestic costs of hosting refugees from Syria, Afghanistan and Ukraine. The amount of funding that is available to be programmed and spent in-country – what the OECD Development Assistance Committee (DAC) refers to as Country Programmable Aid – has remained just above 0.1% of donor GNI since 2000.

Figure 1 Official development assistance from OECD Development Assistance Committee members



Source: Authors' calculation from OECD STATS. Debt relief and other in-house donor spend consist of: I.A.6. Debt relief, I.A.2.1. Core support to donor country-based NGOs & civil society, I.A.7. Administrative costs not included elsewhere, I.A.8. Other in-donor expenditure (includes refugees in donor countries).

This paper focuses solely on the financing challenges for social assistance: non-contributory cash transfers that include categorical transfers to children, older people and disabled people and targeted safety nets that include cash, in-kind transfers and public works. This paper therefore does not include financing challenges for another key aspect of social protection, health, as these are already well considered, not least through the work of the Global Fund to Fight AIDS, Tuberculosis and Malaria.

The focus is on social assistance because this has played a key, and at times decisive, role in reducing poverty risk from ill health or reduced working. The Covid-19 crisis has further underlined the key role that social assistance plays. Many countries expanded their social assistance systems in response to the crisis. More than 1,000 cash transfer measures were introduced, for at least a limited period, in 203 countries, reaching more than 1.3 billion individuals (Gentilini, 2022). However, while these resulted in coverage in upper-middle-income countries (UMICs) and LMICs of around 25% of the population, in LICs this only reached 8%. Most people who benefitted

were in UMICs which had both large-scale systems in place already and the fiscal space to borrow (domestically and internationally) to finance the scale-up costs. In lower-income countries, there were generally fewer existing systems, and those that did exist were smaller scale (with the notable exception of Ethiopia). While the main funder of social assistance, the World Bank, massively scaled up its lending (by a factor of three), and there were some notable innovations (e.g. in Togo), many of the lower-income countries rapidly reached the limits of the debt they could borrow (for more analysis of post-Covid-19 changes in ODA support for social protection, see McCord et al. (2021), Lowe et al. (2021) and Manuel (2022)).

Even excluding health, both the International Labour Organization (ILO) and ODI estimated the funding gaps for social assistance to be large. ILO estimated this to be \$36 billion a year for all LICs (ILO, 2020). ODI estimates were almost identical at \$34 billion a year (unpublished figure derived by the authors from figures prepared for Manuel et al., 2020). Such gaps represent an extraordinary challenge for aid mobilisation. Even the most successful global health initiative in the last 20 years, the Global Fund to Fight AIDS, Tuberculosis and Malaria, only raises \$5 billion a year, just 15% of what would be needed for social assistance.

Given this, and as background to the SDG summit in 2023, this paper seeks to contribute to the debate on social assistance financing by presenting the latest research and analysis on four key options to address the financing constraints facing LICs and LMICs:

- 1) increasing tax revenues;
- 2) increasing the share of revenues allocated to social assistance;
- 3) increasing donor support by reprioritising aid budgets in favour of social assistance in the lowest income and most financially constrained countries; and
- 4) controlling costs on categorical benefits by more granular targeting of smaller categorical sub-groups.

The paper also lays out implementation and timing issues for social assistance:

- Financing initial 'step change' expansion/reform of social assistance
 - Capital and one-off costs – such as registries
 - Recurrent costs: scale-up of transfers and administration costs to meet the needs of the current population
- Financing future changes in demand
 - Inflation (avoid setting nominal amounts for transfers)
 - Changes in demand

Not all sources of finance are appropriate for these different financing needs, so a clear appreciation of the need for external financing from an increased aid allocation must be set into an appreciation of what is achievable, when, and how it fits into the national Medium Term Fiscal Strategy as part of any country-level assessment of the need for additional aid for social assistance expansion.

2 Lower-income countries' ability to increase tax revenues

2.1 Estimating tax and revenue potential

How much additional revenue can countries raise to finance their own social assistance programmes? A key source might be domestic taxes and, thus, a natural question is how much additional tax revenue we might expect them to be able to collect – over and above what they currently collect – given their underlying socioeconomic and demographic characteristics. One way researchers have attempted to estimate this is by comparing *current* tax revenues with modelled *potential* tax revenues; the resulting ratio is usually termed 'tax effort' (TE).

The exact methodology for estimating TE has evolved over time and – still today – differs across studies. However, there is consensus that every country should appreciate the extent to which improved 'domestic revenue mobilisation' (DRM) – and, within that, the importance of enhanced domestic tax collection – can be harnessed to raise revenues for funding enhanced social protection. ILO (Bierbaum and Schmitt, 2022) highlights a range of approaches that could be followed: expanding mandatory social security contributions, ensuring progressive income taxation² or leveraging revenues from natural resource extraction to fund social protection (see also Ortiz et al., 2019). The World Bank (2022) highlights the need to improve the progressivity of personal income taxation, alongside an increased focus on (e.g.) property taxation and, where possible, increasing indirect consumption taxes due to the larger tax base.

However, the options for many LMICs to enhance DRM and TE to collect sufficient domestic revenue to fund expanded social assistance programmes at scale appear limited. The average tax-to-GDP ratio in LICs, for example, currently stands at less than 12% (and total revenues at just 13.9%) (UNU-WIDER, 2022), leaving many of the world's lower-income countries with significant domestic financing gaps. Furthermore, many LICs and MICs are already

² See, for example, McNabb and Granger (2023) for a recent review of the policy design of personal income taxation and social security contributions in African countries.

collecting revenue at a level quite close to their potential and exerting a TE not far below that of many high-income countries (HICs). Table 1 shows the average levels of tax-to-GDP, by income group, in addition to TE and tax potential, calculated from McNabb et al. (2021).

Table 1 Tax potential estimates in comparison, average by income group³

Country group	Current tax: GDP (excluding social security)	Tax effort	Tax potential
LICs (n=27)	11.6%	0.86	13.5%
LMICs (n=52)	14.7%	0.84	17.6%
UMICs (n=50)	17.9%	0.84	21.2%
HICs (n=57)	21.5%	0.87	24.7%

Source: Authors' calculations from McNabb et al. (2021) and UNU-WIDER (2022), with some limited additional updating by the authors. Most recent observation used for each country.

How do these profiles of TE and tax potential translate to expectations for potential revenue collection? We use these TE scores to construct a profile of revenue potential that corresponds to tax potential (as estimated in McNabb et al., 2021) plus social contributions and non-tax revenue.⁴ Thus, the difference between Column 1 in Table 1 and Column 2 in Table 2 is the sum of social contributions and non-tax revenue. The Revenue Technical Appendix to this report (Appendix 1) outlines the justifications for relying on the scores from McNabb et al. (2021) vis-à-vis other recent studies. Table 2 shows that, on average, we estimate that LICs, LMICs and UMICs have the potential to raise an additional 2.6%, 4.6% and 5.7% of GDP respectively in revenue, given their current underlying characteristics.

³ The set of countries shown pertains to those for which we estimate revenue effort. The estimates in McNabb et al. (2021), and USAID are more directly comparable as they both utilise the SFA approach, albeit with different modelling assumptions. It is not possible to unpack the exact reasons why the DEA approach differs from the others, as Bogetic et al. (2021) do not, unfortunately, go into depth on the methodological underpinnings of the results.

⁴ These scores are publicly available as 'Supplementary Material' at <https://www.wider.unu.edu/publication/tax-effort-revisited-new-estimates-government-revenue-dataset>.

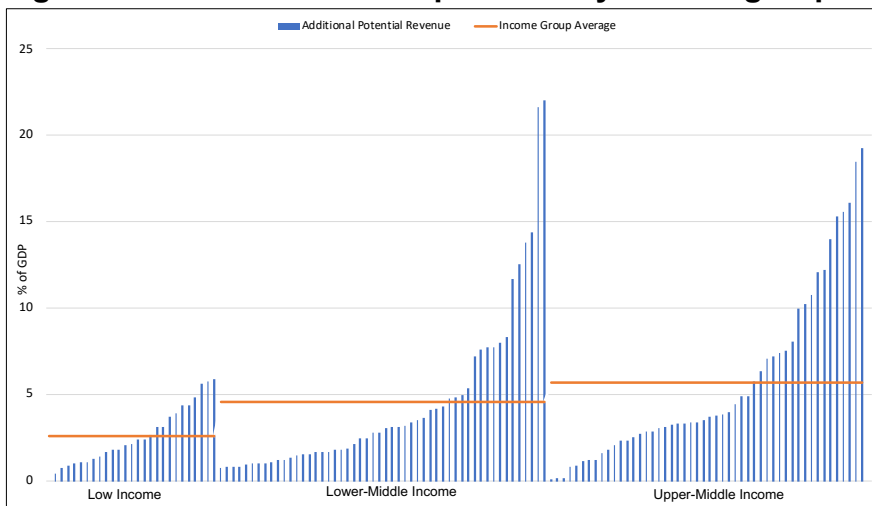
Table 2 Average revenue potential, by income group

	Current revenue: GDP	Revenue: GDP potential	Difference	Difference (% change)
LICs (n=27)	13.9%	16.5%	2.6%	18.5%
LMICs (n=52)	19.4%	23.9%	4.6%	23.7%
UMICs (n=50)	27.7%	33.4%	5.7%	20.7%
HICs (n=57)	33.3%	43.1%	9.9%	29.6%

Source: Authors' calculations from McNabb et al. (2021) and UNU-WIDER (2022). Most recent observation used for each country.

We see from Table 2 that there is a greater proportional increase in revenue potential in LMICs than LICs, where the average potential revenue is some 23.7% above current levels. However, these averages mask a wide range of results globally (see Figure 2). We do not focus in depth on HICs, as TE scores often have a different interpretation for that group of countries (see Appendix 1 for a discussion).

Figure 2 Additional revenue potential by income group



Source: Authors' calculations from McNabb et al. (2021) and UNU-WIDER (2022). Most recent observation used for each country.

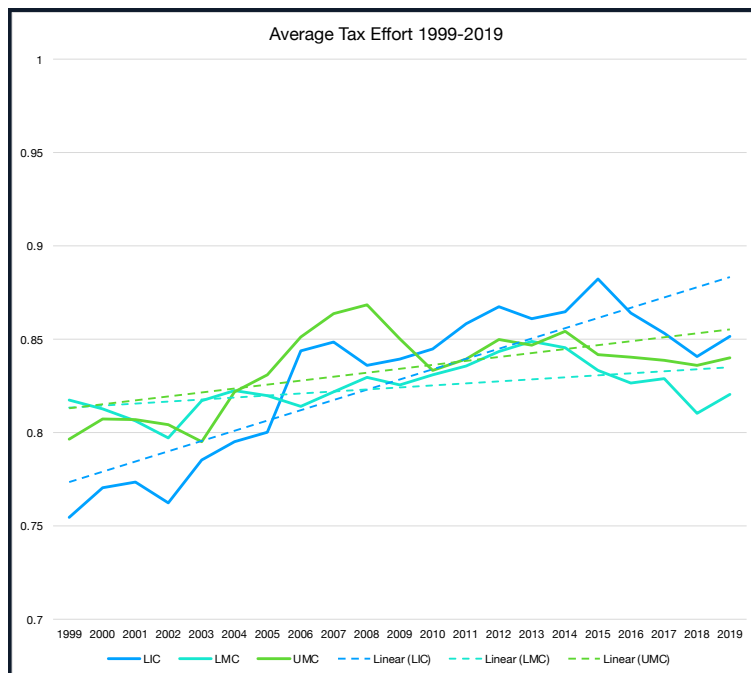
The challenge in moving from *identifying* tax potential to successfully *reaching* that potential can be significant. TE models estimate how far away a country's actual tax collection is from some 'frontier': a TE score of 1 represents a situation where it is collecting 'at the frontier' or collecting as much as possible assuming that its underlying tax base and capacity is fixed. To move closer to the frontier and exert more 'effort', a country might seek to collect more tax revenue from the existing tax base, for example by investing in more efficient administrative procedures, engaging in efforts to increase taxpayer morale or attempting to tackle corruption. However, such interventions take significant time and political will. Furthermore, there may be a temptation on the part of tax authorities to turn to

coercive methods to squeeze additional revenues from existing tax bases, which might prove counterproductive and lead to more regressive forms of taxation, hindering poverty reduction (Bastagli, 2015), affecting taxpayer morale or stifling growth and investment. The World Bank's most recent *Shared prosperity* report identifies 'Mobiliz[ing] revenue without hurting the poor' as one of three key priority actions in fiscal policy (World Bank, 2022). Likewise, Long and Miller (2017) highlight the risks of a 'blind adherence to a push for more taxation'. Naturally, then, the question turns to how to increase the *size* of the tax base (or push the frontier outward). One short-term option might be to consider removing some costly tax expenditures, especially those provisions that exempt certain taxpayers or activities from the tax net. However, the most sustainable increases in domestic tax collection will likely only be achievable over the medium to long term and as a result of (*inter alia*) steady growth, investment in education and structural transformation towards more productive economic activities.⁵ Tax reform can even support these processes. However, transformative shifts like this do not offer much in the way of immediate *low-hanging fruit* for the tax administration.

2.2 Discussion

The Revenue Technical Appendix (Appendix 1) to this report highlights how McNabb et al. (2021)'s findings expose prior estimates of TE as biased, and how using them to set expectations for potential DRM gains in many LMICs might have led to a significant 'optimism bias'. This finding is key for our understanding of the potential of DRM for increasing financing to social protection. The TE estimates from McNabb et al. (2021) suggest that countries are collecting on average close to around 85% of their potential.

⁵ It is important to note that estimates of TE and tax potential are backward-looking and are based on the *existing* tax base.

Figure 3 Tax effort 1999–2019, by income group

Source: McNabb et al. (2021)

An important caveat to the findings presented as a share of GDP is that, naturally, the denominator for many of the world's lower-income countries is rather small. An alternative way to frame revenue potential is to ask how much additional revenue might be collected *per capita*. Using our estimates of revenue potential, we find that, were countries to meet their revenue potential, the average LIC would collect just \$20 extra per person. This figure is substantially higher for the average LMIC (\$134) and UMIC (\$437).

There have undoubtedly been instances where countries have successfully sustained increases in DRM efforts (by either pushing the frontier or moving closer to it). However, it is important to be realistic about what is possible; it seems that many of the low-hanging fruit have already been picked.⁶ The average tax ratio in sub-Saharan Africa, for example, was no higher in 2019 (pre-pandemic) than it was in 2015, and despite significant improvements since the turn of the century, in LICs, LMICs and UMICs, average TE scores have been declining since around 2015 (see Figure 3). Even if more countries mobilised domestic revenues at a level closer to their 'potential', competing expenditure needs would vie for the additional funding, and thus it is unrealistic to assume that all additional revenue would be channelled into enhanced social assistance funding.

⁶ Oppel et al. (2022) describe how many LMICs experienced a dramatic increase in DRM effort in the 2000s, but this has not been sustained.

3 Lower-income countries' ability to increase funding for social assistance by reprioritising domestic budgets

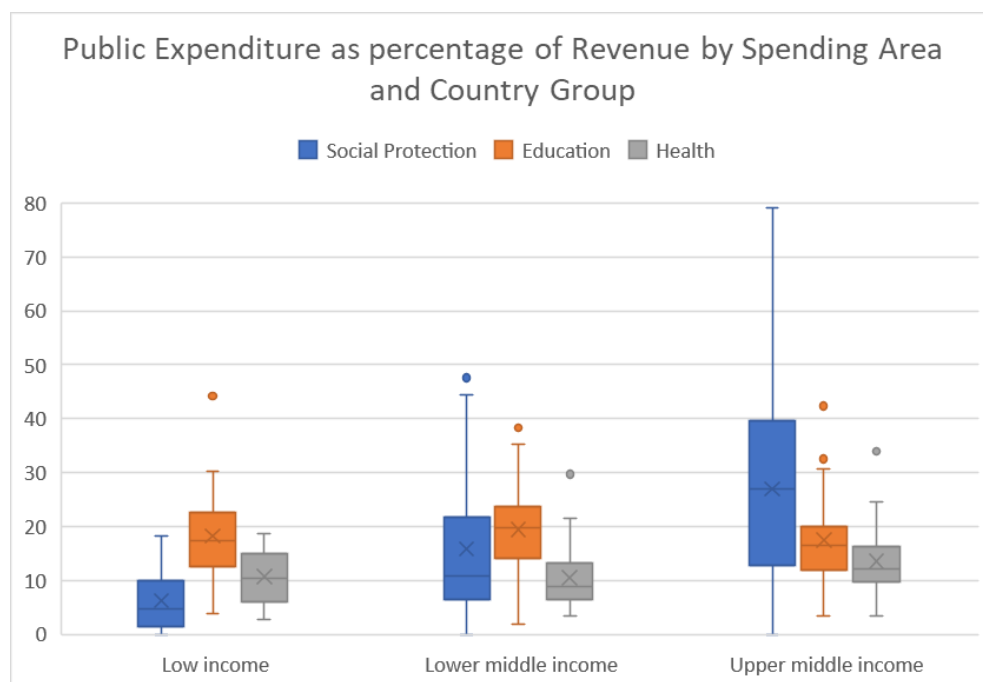
ODI research for this paper has included a review of all the data sources for social protection, education and health spending, including ILO, World Bank, the United Nations Children's Fund (UNICEF) and the International Monetary Fund (IMF). In consultation with ILO, and drawing on data reported to the IMF and from national budget websites, Appendix 2 includes our latest estimates for nearly all LICs, LMICs and UMICs.

One major data gap is the inability of LICs and LMICs to separate social assistance (non-contributory social protection) from social insurance (contributory social protection funded primarily by employers and employees but with government revenue support on occasion). However, this data gap potentially only reinforces the case for change. If the share of revenues that is spent on social protection appears low, then the share on social assistance will be even lower. This is also a concern as social insurance spending tends to be skewed away from the poorest.

While there is no conceptual framework to formally assess the relative merits of investing in different sectors, one striking feature of recent spending patterns is that LICs allocate a much smaller part of their domestic revenues (tax and non-tax) to social protection relative to their allocations for education and health. While there is a wide range of spending patterns across countries, UMICs on average spend significantly more on social protection than on either education or health. The reverse is the case in LICs. LMICs sit between the two. Figure 4 is in the form of a standard statistical presentation. The boxes capture the middle half of all observations (the 'interquartile range'). The line in the middle of the box is the median point. Half the observations will be above and half below this point. The whiskers extend to where all but a few outliers would be expected to lie. (An

outlier is defined as being more than two interquartile ranges from the median.)

Figure 4 Public expenditure as percentage of revenue by spending area and country group



Source: ODI analysis of latest IMF, ILO, UNICEF, Government Spending Watch and national budget data. Most data refer to 2020 spending.

Table 3 Sectoral spending as percentage of domestic revenues

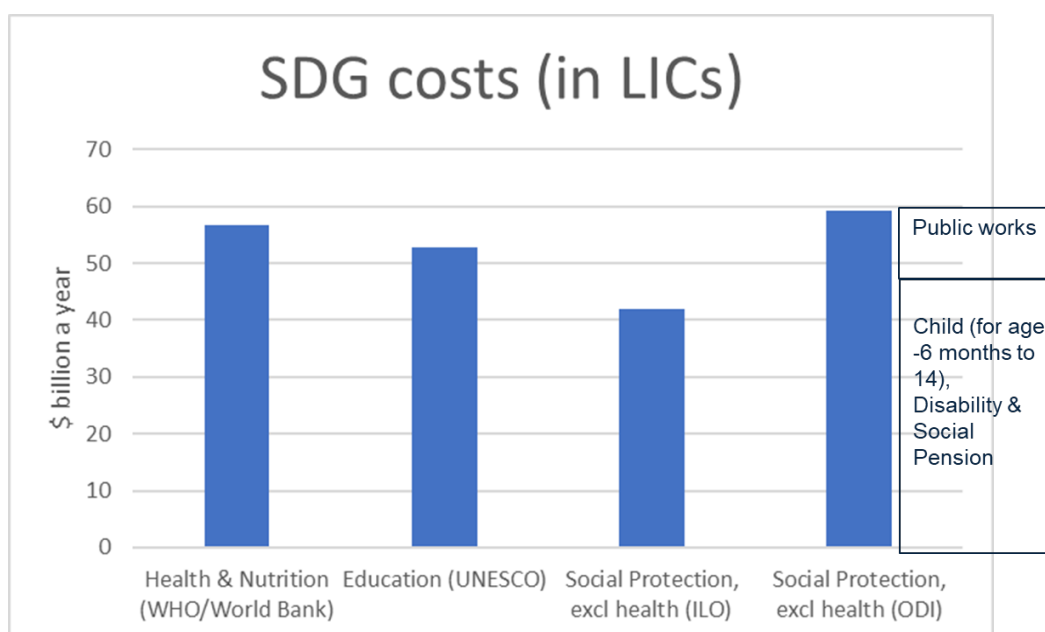
All figures refer to average (median) value	Latest spending as share of domestic revenues (%)		
	LICs	LMICs	UMICs
Sector			
Social protection	5	11	27
Education	17	20	17
Health	10	9	12

Source: ODI analysis of latest IMF, ILO, UNICEF, Government Spending Watch and national budget data. Most data refer to 2020 spending.

These differences in spending patterns are likely to reflect in part different demographics and different coverage and commitments to social insurance – in particular to pensions. HICs tend to have older populations and matured pension policies, resulting in a higher need for pensions and health care and less need for education. However, as the average proportions spent on education and health vary so little across income groups, demographics are likely to only account for a small part of the difference in social protection spending. This is confirmed by the SDG costings for the three sectors, which do take into account demographics. As Figure 5 shows, the financing needs

for universal coverage of the three social sector SDGs in LICs are very similar (even when costs are just for social assistance and not the full set of other social protection programmes). The decisions by LICs to allocate much more to education than health, let alone social protection, therefore reflects a deliberate policy prioritisation.

Figure 5 Sustainable Development Goal costs (in low-income countries)



Sources: World Bank/WHO; Education: UNESCO; Social Protection: ILO (2020); Manuel et al. (2020). See Manuel et al. (2018) for full details of sources.

Earlier ODI research explored whether the different international sectoral spending targets could provide a guide for relative spending priorities (Hagen-Zanker and McCord (2010); Manuel et al. (2018), updated in Manuel et al. (2020) and Manuel (2022)). One minor technical challenge is that some of the targets were set as a percentage of budget spending and others as a percentage of GDP. Table 4 (taken from Manuel (2022)) used the latest tax/GDP ratio for LICs to convert all the targets into a consistent form as percentage of budget. The much more fundamental problem with the spending targets is that each was agreed separately, without reference to the needs of other sectors or an overall budget constraint. As a result, even a limited set of targets collectively sum to more than 100% of a budget in a typical LIC, as shown in Table 4. If costings for all the SDGs were included the problem would be even worse.

Table 4 Internationally agreed sectoral spending targets

Spending targets		% of GDP	% of budget
Bold is original form of target			
<i>Italics</i> are implied targets based on current LIC domestic revenue			
Sector	Location/ date target agreed		
Education	Maputo 2000	3%	20%
Health	Abuja 2001	2%	15%
Social protection	Windhoek 2008	4.5%	32%
Agriculture	Maputo 2003	2%	10%
Sanitation	eThekweni 2008	0.5%	4%
Water	United Nations Development Programme	1%	7%
Subtotal 6 social sectors			98%
Energy and transport infrastructure	WB 2010	9.6%	69%
Total		22%	166%

Memo – In LICs, total domestic revenues are currently only 14% of GDP (median value).

NB – No allowance for defence, justice and public administration

As the total for the internationally agreed sectoral spending targets exceed 100% of available revenues, previous ODI research explored scaling back the three social sector spending targets so they were limited in total to 50% of the total revenues available. This implicitly assumes that the sector targets were prepared on a comparable basis and should be considered of equal priority.

The implicit assumption of equality of priority is a key limitation in drawing on both the SDG costing and sector spending analyses. Unfortunately, there is no robust theoretical framework to formally assess what the balance of spending between sectors should be (for example, social sectors compared with infrastructure spend or health compared with education). There is a range of reasons why LICs might choose to spend less on social protection than on the other social sectors. It is beyond the scope of this paper to investigate or evaluate these, but the three reasons noted below give an indication of the range:

- Differences in economic structures. If a large proportion of the adult population is poor and in informal employment, providing

- cash transfers to those who cannot work may be a lower priority.
- Differences in approaches to economic growth. While the economic case for investing in the first 1,000 days of a child's development is increasingly recognised, there is no clear single blueprint for growth and countries may consider it more effective to prioritise infrastructure spending, rural development or investment in education.
 - Differences in political choices. Recent political economy studies (e.g. Hickey et al. (2021)) have highlighted the importance of politics in understanding why universal social protection programmes have been set up in middle-income Latin American and Asian countries in the last 30 years, are starting to be scaled up in some middle-income African countries more recently, but remain rare in low-income African countries.

In view of these potential fundamental differences of approach, it is not possible to derive technically-based conclusions on what would be an appropriate share of spending for social protection. However, four points do seem worth noting.

First, the growing evidence of the investment case for social protection on its own terms (such as the impact of child's neurological development and hence long-term learning capability of the future workforce) and of its impact on the outcomes for other social sectors and its value in terms of climate adaptation (discussed further in the next section) do suggest that it would be reasonable to consider some increase in its spending share.

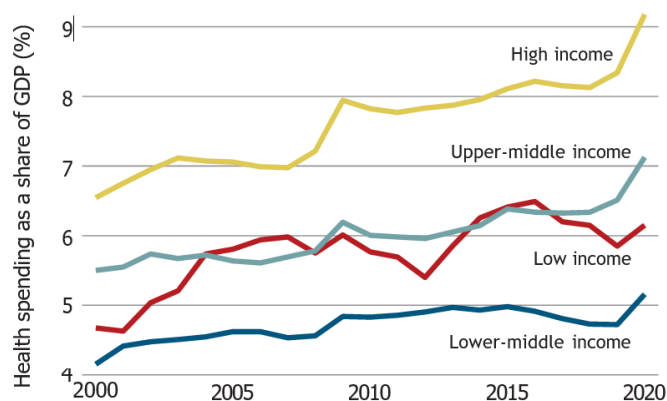
Second, however, the above analysis of the targets reveals that the social protection target of 4.5% of GDP is unrealistic, as this would imply a six-fold increase in the share allocated to social protection – from 5% to 32%. The level of ambition in this target has long been recognised and is why Government Spending Watch and ODI research since 2018 has focused instead on more recent ILO costings. These suggest the minimum level of spend required for a basic social protection floor was 2.9% of GDP. But even this lower figure is highly ambitious, implying a four-fold increase in the share allocated to social protection, from 5% to 21%.

Third, given MICs provide a higher share of spending for social protection, it seems reasonable to assume that a similar trend will occur in LICs. As LICs become richer, it is possible that they will match LMICs' pattern of equal spending on social protection and health. This would imply a potential doubling of the share allocated to social protection from 5% to 10%. Such an increase would contribute to ensuring the poorest can access education and health services. Such a change could occur through a combination of committing a high proportion of future increases in government revenues (from

new sources and/or economic growth) to social assistance and reallocating existing expenditures (such as replacing fuel subsidies with social assistance). The change could be funded by a reduction in the shares of any other sector, not necessarily education or health. However, such a shift would be over a long period.

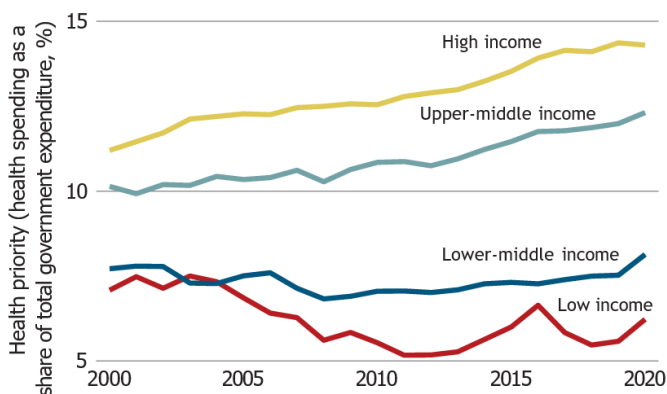
Fourth, recent analysis of health spending by WHO (2022) has highlighted how long it takes to see a change in sectoral spending, even when it is a high priority at a global level. While health spending as a percentage of GDP has markedly increased since 2000 (Figure 6), in LICs and LMICs this has all been driven by increases in the tax/GDP ratio. As a proportion of total government spending, there has been hardly any increase in either LICs or LMICs (Figure 7).

Figure 6 Health spending as share of gross domestic product⁷



Data source: WHO Global Health Expenditure Database, 2022.

Figure 7 Health spending as percentage of government expenditures⁸



Data source: WHO Global Health Expenditure Database, 2022.

⁷ Source: <https://apps.who.int/iris/bitstream/handle/10665/365133/9789240064911-eng.pdf>

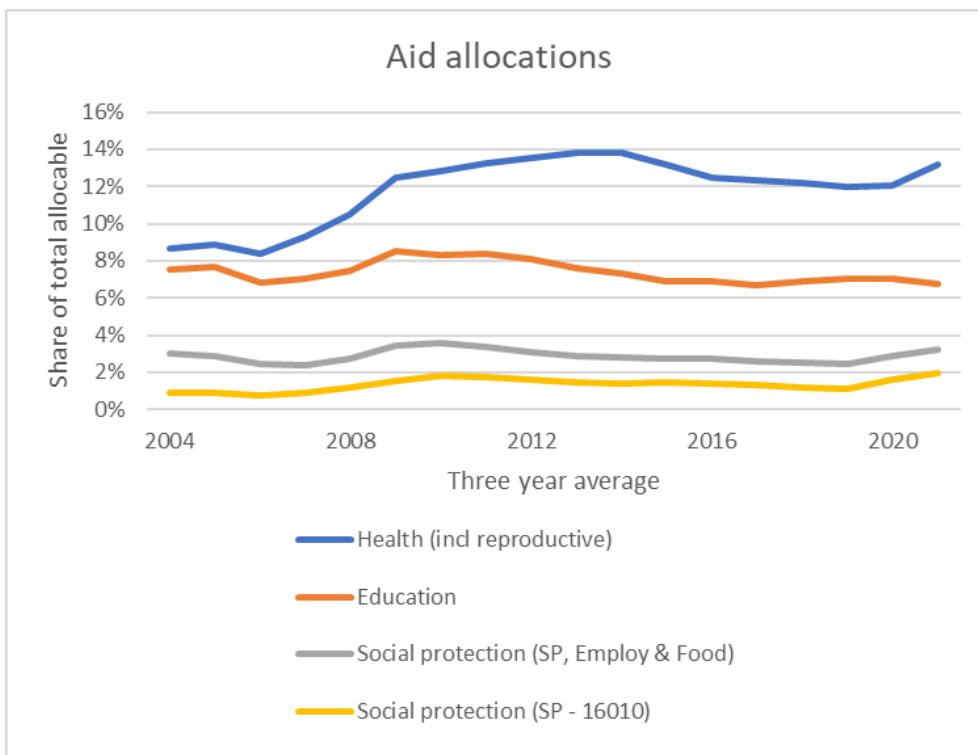
⁸ Source: <https://apps.who.int/iris/bitstream/handle/10665/365133/9789240064911-eng.pdf>

This final point suggests that the realistic potential for any increase in social protection's share of the budget by 2030 should be modest and certainly far below the shares implied by either the 2.9% or 4.5% of GDP figures. The assumption explored in the rest of this paper is that the increase by 2030 would at best mirror the pace of change seen in health, whose share increased by no more than 1 percentage point in both LICs and LMICs between 2010 and 2020.

4 Donors' ability to increase funding by reprioritising social assistance

Although the cost for achieving the social assistance SDG is similar to the costs for health and education, donors have consistently provided much less support for social assistance – even if social assistance aid is interpreted generously to include aid for employment creation and non-humanitarian food assistance (as in Figure 8).

Figure 8 Aid allocations



Source: Authors' calculations based on OECD DAC data (accessed January 2023). Health (including reproductive health) (DAC Codes 120 and 130). Education (Code 110). Social protection includes social protection (16010) plus employment creation (16020) plus non-humanitarian food assistance (52010). All official donors. Disbursements. Constant US dollars.

Social assistance aid was scaled up dramatically in 2020 in response to Covid-19. The largest donor, the World Bank, which provides over

half of all social assistance aid, more than doubled its disbursements. Across all donors, social assistance disbursements rose from \$4.7 billion in 2019 to \$8.4 billion in 2020, and social protection's share of overall aid rose from 2.4% to 3.7%. Much of this funding could be disbursed quickly as it involved scaling up existing programmes (McCord et al., 2021). Countries without programmes already in place benefitted less (apart from some notable exceptions such as Togo, which rapidly created a new programme). It is not clear whether in the process longer-term post-Covid-19 needs were taken into account, so that funding was used to address long-term structural gaps in social assistance provision, or funding was regarded as a temporary boost. In 2021, disbursements fell slightly to \$7.8 billion. Partial figures from International Aid Transparency Initiative for the major donors suggest that disbursements fell further back in 2022.⁹ Such a reduction is unfortunate as, even in 2020, the social assistance share of aid of 3.7% was only half that of education and a quarter that of health.

As noted in Section 3, the costs of achieving the SDGs in each sector are almost identical. The international spending targets also imply a balanced spread across the sectors. These are the two fundamental reasons for rebalancing donor aid.

Another consideration is the impact of the current imbalance. As World Bank Development Indicators show, with substantial levels of aid support most LICs have been able to achieve vaccination and primary school enrolment rates close to 100%. While these sectors still face funding gaps (see Manuel et al., 2020), it is striking that social protection coverage rates are much lower. Unlike their commitments to education and health, donors have not signalled a willingness to provide the level of support needed to develop and maintain national-scale social assistance programmes.

A further consideration is that rebalancing in favour of social assistance would also be consistent with the level of support that donors provide in their own countries for social protection. On average, OECD countries spend 32% of their budgets on social protection (as defined by OECD, excluding health). This is the same as the combined total they spend on health (19%) and education (12%). One of the main reasons for the elevated level of social assistance spend is the level of demand for state-funded pensions, reflecting the older age profile in OECD countries and the political power of this demographic. On average, pensions account for 54% of OECD social protection spend. However, if this element is set aside, spending on other social protection measures still amounts to 15% of the total budget, close to the average for health and education.

⁹ <https://devinit.org/resources/tracking-aid-international-development-real-time/>.

Table 5 OECD countries' sectoral domestic and aid allocations

Sector	Share of domestic allocation	Share of aid allocation (latest three years)	Ratio domestic allocation: aid allocation
Health	12%	12%	1:1
Education	19%	7.1%	3:1
Social protection	32%	2.8%	11:1
Social protection (excluding pensions)	15%	2.8%	5:1

Source: Authors' calculations based on OECD data.

Rebalancing aid flows would have other benefits. Social assistance is a key enabler for the poorest to access education, health, water and justice services. Social assistance also facilitates adaptation to climate change, and reduces the impact of humanitarian disasters.

How might any rebalancing be achieved? Two points are worth noting here. First, increases in the share for social protection would not necessarily be funded by a reduction in the share given to education or health. It would make sense for any rebalancing to also consider the 75% share of aid given to other sectors. Second, experience from other sectors suggests that a major shift will be hard to achieve. As Figure 7 shows, education's share has remained remarkably constant over the last 20 years, at 7–8%, despite high-profile international commitments such as 'No country should be unable to afford universal primary education'. A major shift in the share of aid being spent on social assistance is likely to require initiatives on the scale of Heavily Indebted Poor Countries debt relief initiative or the creation of the set of global funds for health (which do seem to be associated with the increased share of aid being spent on health). But even the most successful global fund – The Global Fund to Fight AIDS, Tuberculosis and Malaria– has only been able to mobilise \$5 billion a year.

Climate finance

One key option for rebalancing would be to draw on the increasing flows of aid for climate finance. This would require a clearer articulation of the links between social protection aid and climate change. There is growing evidence of such links (e.g. see Bird et al. (2015) and Costella et al. (2021)) and it is welcome that the role of social protection was formally identified at COP27. But the links are still fragmentary and not drawn on in practice. Countries do not include social protection programmes as part of their national plans. At UNFCCC negotiations, LICs and MICs have been clear that climate finance should be additional and distinct from traditional development assistance, and so have excluded social protection

from the type of programmes eligible for climate finance. Yet social protection can be linked to:

- **Climate adaptation finance.** Past evaluations of the Ethiopian Productive Safety Net have identified adaptation benefits, such as investment in small-scale irrigation enabling communities to adapt to more variable weather. The predictability of cash-earning opportunities from the public works programme (and social assistance payments to those who cannot work) gives subsistence farming households the confidence to experiment with new crops and agricultural practices. Seasonal public work programmes could collectively make the much-needed long-term investments in food storage to reduce food loss. These are all critical elements of any long-term adaptation strategy. Finally, the cash transfers help the poorest families to access health care.
- **Loss and damage finance.** To date, debates around loss and damage have focused on extreme high-profile events – rising sea levels for small island developing states and exceptional floods in Pakistan. But climate change has made it harder for farmers to grow crops for years. Given OECD government concerns about corrupt governments capturing and diverting loss and damage payments, using part of loss and damage funding to finance cash transfers to subsistence farmers would be easy to track and hence easier to justify to taxpayers in OECD countries.

Impact

Regardless of how a rebalancing of donor social assistance might be achieved, what would be the impact? Increasing social assistance aid so it at least matched education's share would result in \$15 billion of social assistance aid – a \$10 billion a year increase compared to pre-Covid-19 levels of \$5 billion.

5 Potential to use categorical social assistance and targeting within funding constraints

How can the design of social assistance adapt to a much smaller overall budget for financing support to LICs and LMICs and still expand their social assistance programmes? We concentrate on how to identify the most poverty-relevant populations for so-called 'social floors': categorical programmes for children, older people and people with disabilities. Our approach is threefold:

- 1) Understanding underlying demand from demographics
- 2) Understanding how those populations relate to poverty risk (and low levels of monetary household welfare)
- 3) Understanding strategies to cost options for transfers that can reflect demand and poverty risk

5.1 Demand for social floors in low-income countries and lower-middle-income countries and prioritising by age and disability status

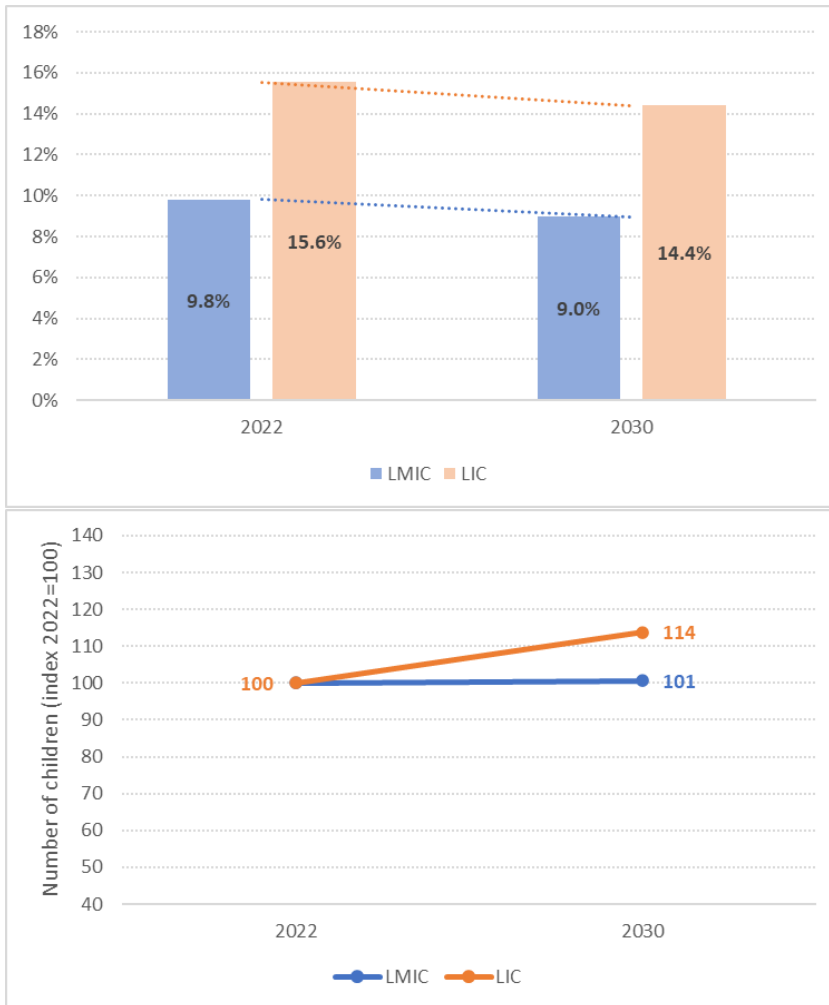
LICs and LMICs will face demographic demands that will reinforce costing and funding constraints: demand from growing populations may coincide with poor domestic fiscal flexibility and capacity, and poor external borrowing and debt profiles. Understanding the demand from demographics is thus crucial to building a case for funding social assistance in the light of the constraints of any reductions in budget from global support.

Children

Young children aged 0–4 (inclusive) will decline as a percentage of the population up to 2030. Figure 9 shows the decline from 9.8% to 9.0% in LMICs, and from 15.6% to 14.4% in LICs. This suggests that, as the working-age population grows as a percentage of the total, medium-term changes to demand can be met from growing revenues from taxation. However, absolute demand levels for any transfers for

this age group will rise over the same period – as child populations of this age group rise by around 1% for LMICs, but by 14% for LICs.

Figure 9 (Top: Children aged 0–4 % of total population / Bottom: Size of child population [index: 2022=100])



Source: United Nations Department of Economic and Social Affairs (UNDESA), 2022

Child-related transfers targeting the youngest children should also consider extension to pregnant women, as this can help ensure maternal and child nutritional and healthcare outcomes. Demand for child transfers thus rises by the number of pregnant women. Data on projected births by United Nations Department of Economic and Social Affairs (2022b) shows that births represent a further 21–22% increased demand to the 0–4 child group, and that absolute numbers of births will rise by 12% in LICs and 1% in LMICs – clearly tracking demand shown in Figure 9.

The reduced budget assumption for global support (discussed earlier) means that cost constraints on overall transfer budgets for child benefits could be considered by prioritising sub-groups of these age cohorts:

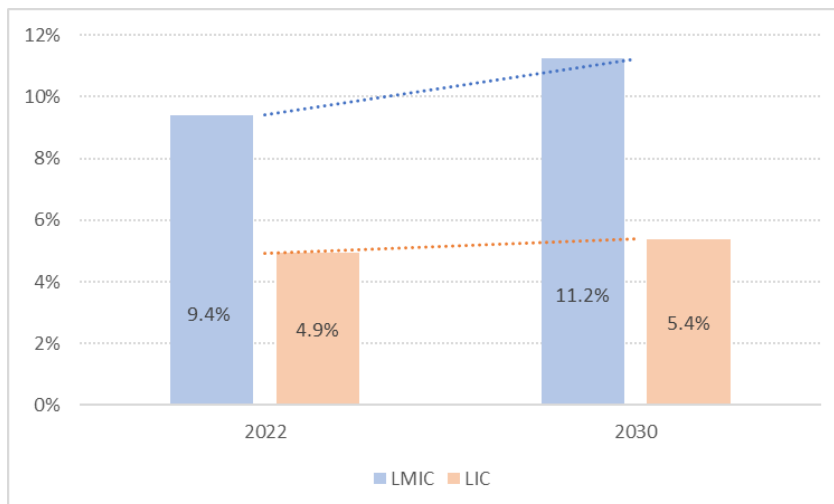
- A transfer for all 0–4s and pregnant women (the suggested ILO social floor).
- A transfer for younger children and pregnant women to reflect caring and nutritional priorities for the first 1,000 days of childhood. We use children aged under three as an illustrative example of this approach.
- A transfer for infants (those aged less than one) and pregnant women, to reflect the growing practice of transfers to pregnant and lactating women (PLW).

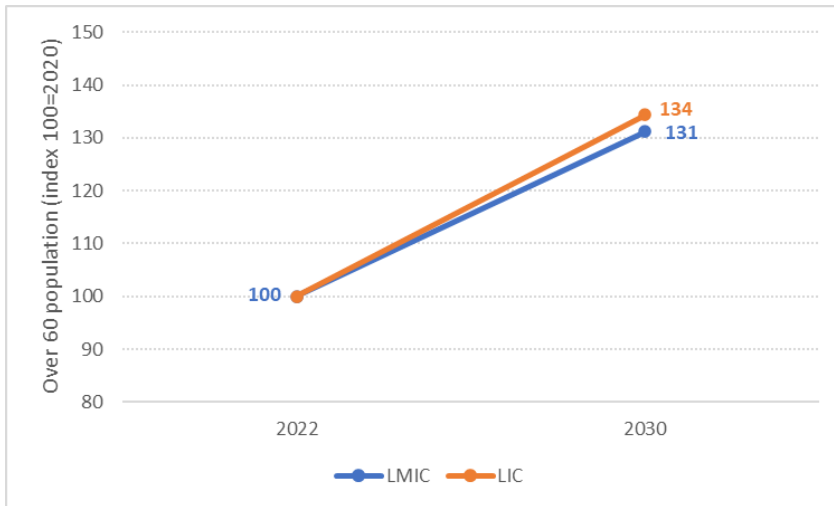
Older people

Global populations are ageing due to changes in fertility and life expectancy, but LICs and LMICs are at earlier points in these demographic transitions and on average have young populations. However, policies on social pensions will have to take the longer view in terms of setting up savings and pension schemes to complement a ‘social floor’ of social pensions. We ignore those longer-term considerations in this paper and solely consider the short-term demographic demands from 2022 to 2030. Figure 10 shows the size of the population aged 60 and over as the baseline social floor for social pensions and then shows an alternative profile based on those aged 80 and over as a less fiscally expensive alternative.

Figure 10

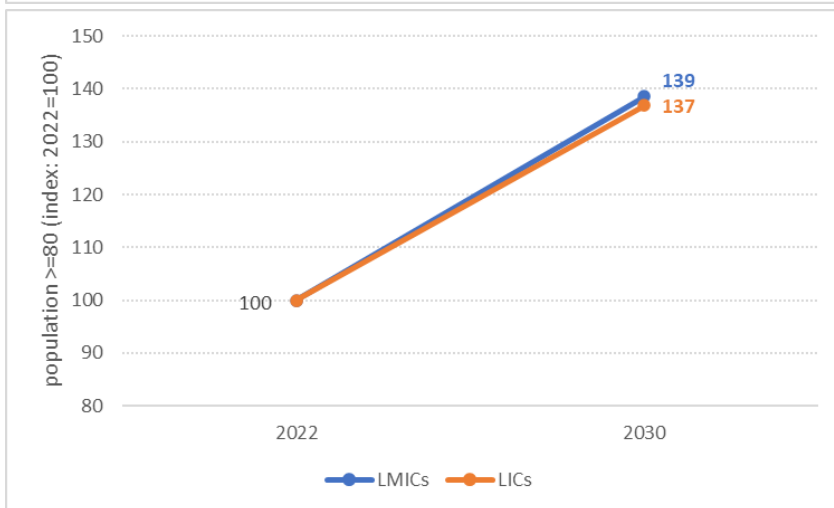
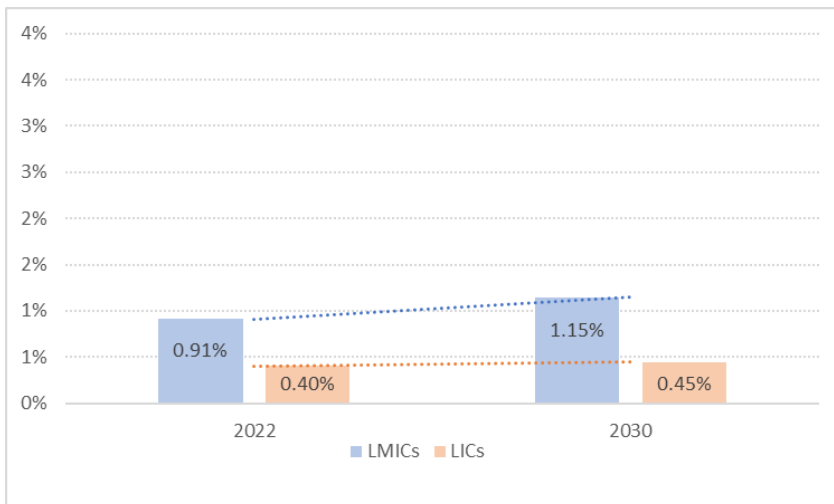
a) Population aged 60 and over (Top: % of total population / Bottom: Size of population [index 2022=100])





Source: UNDESA, 2022a

b) Population aged 80 and over (Top: % of total population / Bottom: Size of population [index 2022=100])

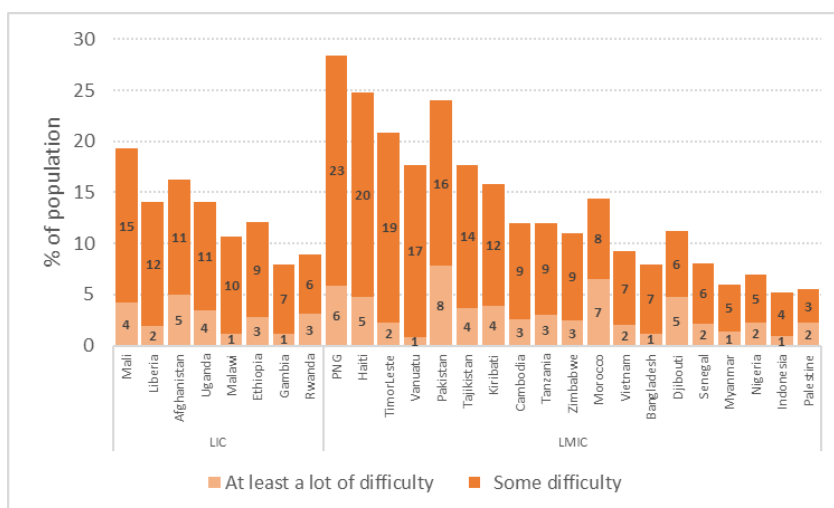


Source: UNDESA, 2022a

People with disabilities

Recognition of disability and data on the prevalence and severity of disability is very recent and is only partially available in LICs and LMICs. Assumptions on the demand for disability-related transfers have, to date, been based on 2011 global disability report data that provided estimates of nearly 15% of the global population facing disability. More recent data using the Washington Group disability measurement approach across a range of household surveys allows us to understand the size of populations by the severity and type of disability. The most recent evidence (Mitra and Yap, 2021) is given in Figure 11. This shows that prevalence of disability can differ greatly between those with ‘any disability’ and those with severe disability – reducing headline demand for transfers considerably, to 3–4% of the population if the priority is to help those most in need. A focus on more severe disability would have two consequences: a) that the populations identified are more likely to have significant additional costs arising from their disabilities – both in terms of their own costs of consumption and on the associated need for care from other people and the direct and indirect costs of such care; and b) it is important to consider that disability increases with age, and demand related to disability will increase in line with an ageing population (as per Figure 9), as well as rising prevalence of non-communicable diseases. A lower caseload assumption to reflect more severe forms of disability can also allow consideration of higher transfer amounts to reflect these specific disability-related costs. It also means that considering older age and disability would require joint consideration.

Figure 11 Disability prevalence



Source: Mitra and Yap, 2021

Our findings on demand and population size suggest that smaller sub-groups of children, older people and disabled people would allow a prioritisation in the face of constrained finance and funding, but also that even these small sub-groups will still have large nominal increases in demand over the next eight years. The basic assumption

is that these increases in demographic demand *should* be financed from revenues resulting from economic growth, while aid or external finance may be needed to fund set-up costs and transfer budgets in the early years of any programme. The problem is that many public budgets for social assistance are not set up that way in LICs and LMICs and are, instead, taking transfer values and other core commitments forward in nominal or other terms that do not allow for either inflation or rising demand. This often reflects the fact that nominal values are enshrined in primary legislation, and thus revision and updating are constrained by legislative procedures. This remains a core problem for any aid-related finance for social assistance. Nevertheless, the pressures from demand on entitlement-based categorical transfers are clear.

5.2 Focusing categorical transfers on those with low living standards

Our analysis of levels of demand was based on individuals of a certain age or with disability. Any focus on poverty and low income necessitates a consideration of who these individuals live with, and an assessment of *household-level* monetary resources, which are the basis for poverty measurement. This move from individual to household populations also affects an assessment of the coverage of transfers – from solely considering the individuals who receive them, *direct coverage*, to additionally look at the households that benefit and thus the total population coverage from *indirect coverage*. We use the ‘indirect coverage’ approach as survey data does not consistently identify individual-level receipt and it is only at the household level of ‘indirect coverage’ that we can observe consistent results both within and across countries.

Household survey data from Nigeria and Ethiopia allows us to assess illustrative evidence of the distribution of categorical populations and the level of direct and indirect population coverage for categorical benefits.

We see from Table 6 that even small individual categorical populations can lead to larger indirect populations through co-residence: at the higher estimates, a 0–4 child benefit would impact 40–50% of the population, while at the lower estimates, a social pension for the over-80s would impact 3–4% in our illustrative county examples. The crucial importance of the size of co-resident populations lies in the distributive impact of transfers: a larger population will dilute the monetary impact of a transfer on poverty and inequality reduction. This means that a small value transfer will have minimal effect for a large direct and indirect population, and that a higher-value transfer to a smaller population will have a greater impact on household consumption/income and against poverty – but for a smaller sub-group of the population. This is purely an arithmetic

outcome of transfer design but is fundamental to understanding poverty impact.

Table 6 Population size and coverage

Nigeria (green) and Ethiopia (purple)

	% of population	% of households that contain this population group	% of total population living in those households
Children			
Aged 0–4	7 / 5	46 / 24	55 / 30
Aged 0–2	3 / 3	24 / 12	31 / 16
Aged 0–1	4 / 5	29 / 21	33 / 25
Older people			
Aged 60 and over	5 / 5	29 / 20	32 / 20
Aged 80 and over	0.6 / 0.7	4 / 3	4 / 3
People with disabilities			
Any disability	6 / 10	26 / 29	32 / 31
Severe disability	3 / 5	17 / 16	22 / 18

Source: Authors’ calculations from Nigeria General Household Survey 2018–2019 and Ethiopia Socioeconomic Survey 2018–2019.

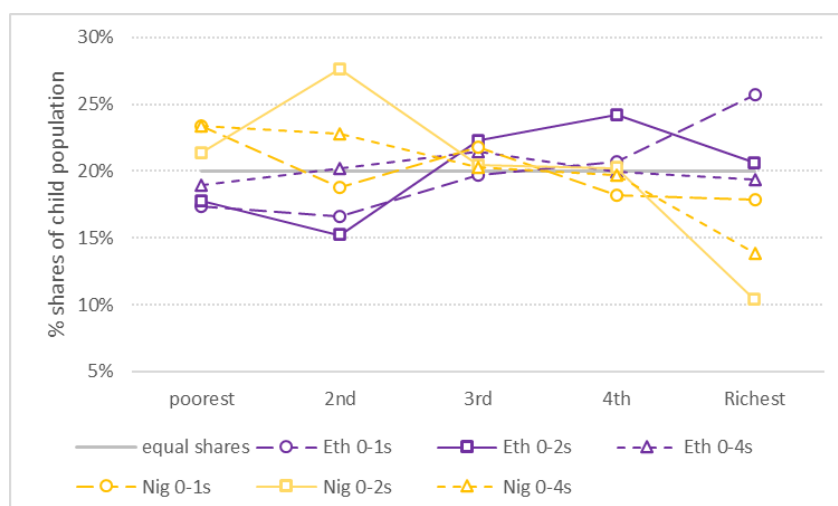
Note: Totals for population are from weighted survey samples and differ from the UNDESA median variant population model estimates shown previously.

Household welfare distribution

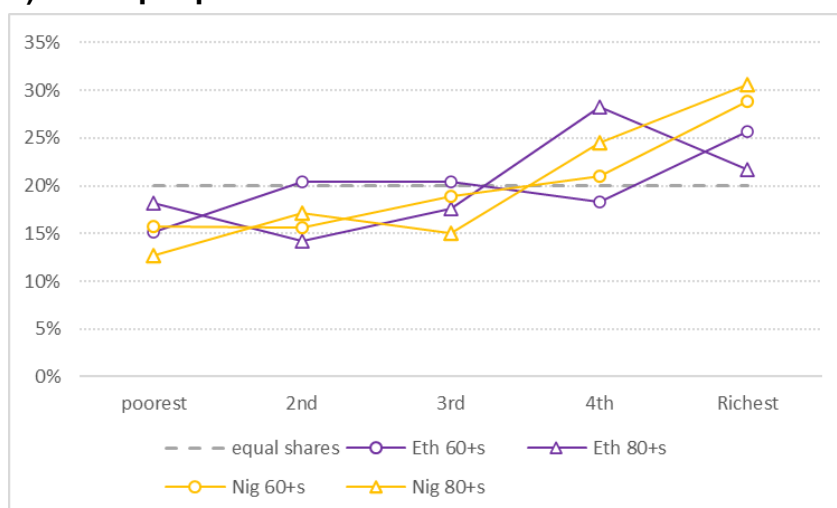
The other issue affecting poverty impact is where affected populations lie on the household welfare distribution – are they richer or poorer than average, prior to such transfers?

Figure 12 Quintile shares of categorical populations

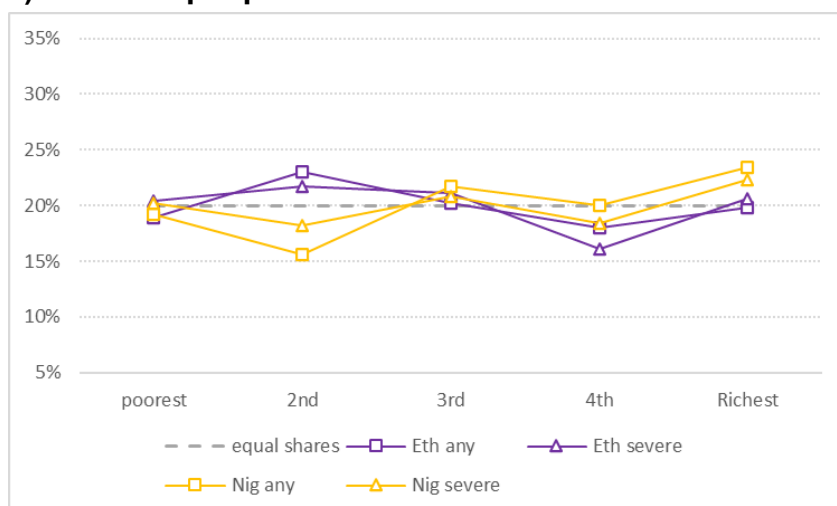
a) Children



b) Older people



c) Disabled people



Source: Authors' calculations from Nigeria General Household Survey 2018–2019 and Ethiopia Socioeconomic Survey 2018–2019.

Figure 12 shows the proportion of each categorical population living in each quintile of the national welfare distributions in Ethiopia and Nigeria. The simplest interpretation comes from the 'gradients' for each sub-group: a line that slopes downwards from left (poorest) to right (richest) shows that the group are disproportionately poor, and vice versa. The grey dashed lines indicate what 'equal shares' (20% of each population in each quintile) would look like. For children, we see that they have a pro-poor gradient in Nigeria, but not in Ethiopia. For older people, we see that both age groups in both countries are over-represented in richer quintiles. For disabled people, we see that there is very little difference between equal shares and the gradients in either country. The implication from these profiles is that basing poverty risk or vulnerability on age or disability status alone is

unreliable and needs empirical validation in all cases. While individual risks and vulnerabilities may be foreseen, families and households arrange themselves to mitigate these risks: for example, orphans are often selectively adopted by richer members of their extended families (Beegle et al., 2010).

We must be careful in interpreting these results – first, because Nigeria and Ethiopia may not be representative of LICs and LMICs in general, but also because the profile for disabled people does not give any weight to their needs (so-called equivalence for disability – see Burchardt and Zaidi (2003)), and thus will overstate their welfare compared to non-disabled people.

However, the conclusions from such an analysis are clear: categorical transfers in their own terms may or may not target poorer populations. Any targeting for poverty reduction may thus have to do two things: a) identify smaller and poorer sub-groups within the categorical populations and/or b) additionally consider regional or other concentrations of poorer people in the overall population that would then enable the children, older or disabled people within these concentrations to be more aligned with poverty.

5.3 Costing and designing categorical transfers

Existing transfers

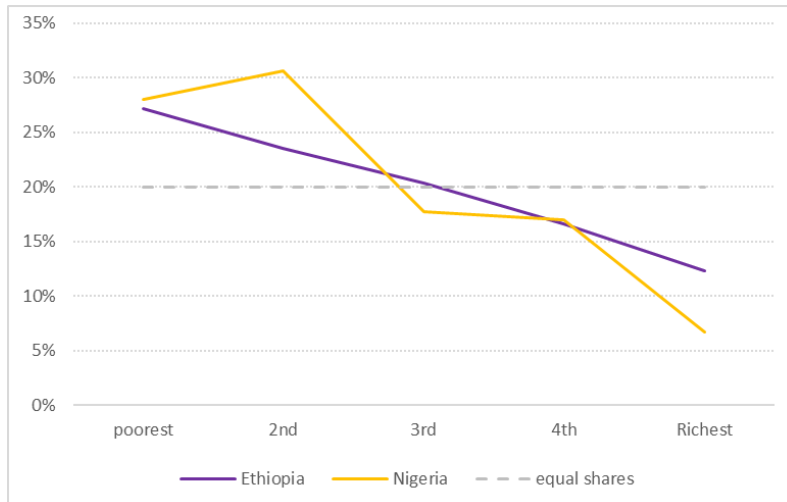
Before considering policies for new transfers, it is crucial to understand existing transfers in place – their incidence, coverage and distributional impact (so-called ‘fiscal incidence’ profile – see Lustig (2018)). To increase coverage, any new transfers should optimally complement and avoid duplication of covered populations. However, policy-makers may wish to have lifetime transfers for children and older people staggered in their implementation to achieve better impacts over time and to cover particular age cohorts. Additionally, the expansion of coverage may occur incrementally (so-called ‘progressive realisation’). Our approach is purely cross-sectional and does not follow any trends. To deduct populations that are already covered by transfers, we follow the approach of merely subtracting the coverage of existing transfers from any design for or costing of new transfers (as per ILO paper), but that approach would seem to miss the opportunity of a more systematic reform of social assistance and the ability for such reform to partly finance the new transfers by savings to the budget by replacing, enhancing or reducing existing entitlements.

Figure 13a shows the levels of receipt of existing government transfers (cash, food and in-kind social assistance and social insurance) as quintile shares of all those directly and indirectly covered. Figure 13b shows the quintile shares of total government expenditure for that coverage. We see that coverage is pro-poor in both Ethiopia and Nigeria, but that total spending is far higher in the

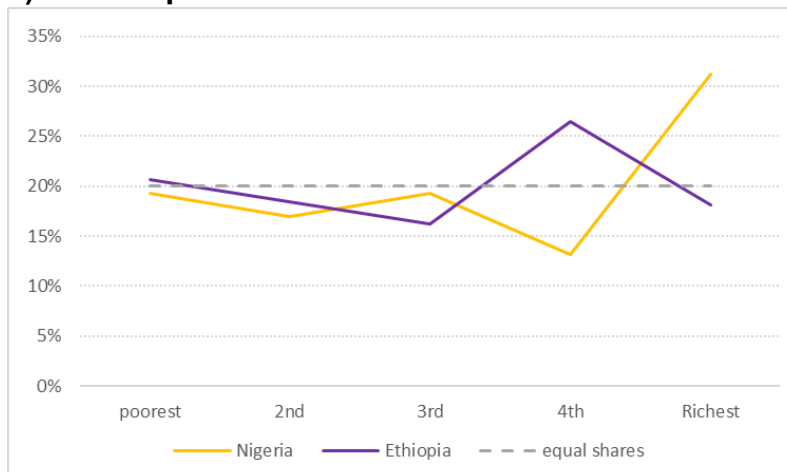
fourth (Ethiopia) and richest (Nigeria) quintiles. Any additional transfers would therefore have to improve coverage and spending in the poorer quintiles to be optimally progressive and to reduce poverty most effectively.

Figure 13 Quintile shares of existing government social transfers

a) Population covered



b) Total expenditure



Source: Authors' calculations from Nigeria General Household Survey 2018–2019 and Ethiopia Socioeconomic Survey 2018–2019.

5.4 Options for costing

As the scale of any new external funding is highly unlikely to match the financing gap in the lower-income countries of \$40 billion, and even a \$4 billion annual fund would be an ambitious achievement in the next few years, how would such a reduction support nascent social assistance programmes in LICs and LMICs? What are the options for country-level funding from such a fund? Our first finding suggests that any funds must consider how schemes will be additionally funded to meet growing demand in the medium term from national resources gained from taxing economic growth. Our second

finding is that ensuring a pro-poor, progressive set of categorical transfers requires a clear understanding of how age and disability are reflected in the household welfare contribution, and that these profiles will be nationally distinct – there is no simple generalised assumption that can perfectly reflect all LICs and LMICs. Our third finding is that existing transfers will also provide a policy background against which to decide what kind and type of categorical transfers are most appropriate in any reform and expansion of social assistance.

How can these later issues – of existing and proposed transfers and of a progressive and poverty-reducing incidence – also be incorporated into a costing approach?

We report a series of simulations to show an illustrative approach using our two country survey datasets. We stress that *these are not put forward as proposals for policy reform in Nigeria or Ethiopia* but are shown to provide clear examples of methods and approaches that can help policy-makers and donors make key decisions on financing approaches for categorical transfers.

Our simulations use transfer values that are set only by their equivalent value for age and disability. Our transfer values are 100 for an adult of any age who is not severely disabled, 150 for severely disabled people and 50 for children (including pregnancy). We make no assumptions about the absolute monetary value of the transfer and compute costings solely on the different population sizes that arise from changes to the definition of entitlement by age and disability status, existing receipt of government transfers and sub-national poverty rates.

We use seven different simulations:

Simulation A: For the whole population, with entitlement to simulated transfers based on the largest categorical definitions by age and disability. This means that all children aged under five, all older people aged 60 or over and all people who report any level of disability are ‘entitled’ to the simulated transfers. The transfer values are thus set to 50 and 100, and with an additional recognition of distinct ‘severe disability’ that has a higher transfer value.

Simulation A is the baseline for the remaining simulations and is set to an index score of 100 for Nigeria and Ethiopia. Subsequent simulations demonstrate the change in value (indexed to 100) for each country.

Simulation B: Repeats simulation A using the same entitlement definitions of age and disability for the ‘largest categorical’ approach, but only simulates new transfers for households that do not already receive a government transfer of any kind. This crudely replicates the

approach to funding put forward by ILO which subtracts existing transfer-receiving populations and transfer spending from estimates of the costs of 'social floor' transfers.

Simulation C: We change the definitions of categorical entitlement to smaller age groups: children aged under two and older people aged 80 and over; and change disability entitlement to those who report 'severe disability' (Washington Group definitions 3 and 4 as previously discussed). We simulate for the whole population without taking into account existing receipt of government transfers. Transfer values remain at 50 for children, 100 for older people and 150 for severely disabled people.

Simulation D: We repeat the change seen between simulations A and B by repeating simulation C but only for those who live in households where no existing government transfers are received.

Simulation E: We change simulation D to remove any duplicate entitlement in the same household from the simulated transfer. In this way we ensure a consistent approach to maximising 'indirect coverage'. To do so, we sequentially order the simulations of each transfer. We first simulate 'severe disability', then for those who do not receive an actual or simulated transfer, we secondly simulate 'over 80s' transfer; and finally, for children aged under 2 years, ensuring again that entitlement is not simulated for individuals where the previous simulations have given entitlement.

Simulation F: We consider sub-national poverty prevalence to further target simulation E. We rank each state (Nigeria) and province (Ethiopia) by its poverty headcount rate and choose the poorest one-third of states/provinces. We then repeat simulation E in these smaller and poorer sub-national profiles.

Simulation G: We re-run simulation F to assess how many fewer states and provinces with high poverty rates would fulfil the overall budget limit of 10% of Simulation A. The result of iterating the exclusion of further states and provinces from simulation F was to reach a limitation based on the poorest one-fifth in both countries.

Across all simulations, our ability to simulate transfers for pregnant women is driven by data limitations, as they cannot be directly observed. We use estimates for populations of pregnant women based on three-quarters of the population of infants under a year old.

Table 7 shows our results and illustrates what can be done to reduce costing of social assistance towards a level that is nearer 10% of the first assumption (option 1): to pay all 'social floors' at the widest definitions of age and disability.

Table 7 Costing simulations

large categorical groups			smaller categorical groups			Further Targeted Smaller Categorical Groups			
	A) whole population	B) population not covered by existing transfers		C) whole population	D) population not covered by existing transfers		E) Avoiding duplicate 'new' hhhd coverage	F) E Applied in poorest 1/3 of States/Regions	G) E Applied in poorest 1/5 of States/Regions
Nigeria			Nigeria			Nigeria			
All under 5	32	28	All under 2	10	9	3) All under 2	8	3	2
Pregnant women	5	4	pregnant women	5	4	pregnant women	3	1	1
60 years old plus	33	31	80 yrs +	5	5	2) 80 yrs+	3	1	0.4
All disabled	30	27	Severely disabled	28	25	1) Severely disabled	25	11	6
	100	90		47	42		38	16	9
Ethiopia			Ethiopia			Ethiopia			
All under 5	32	30	All under 2	12	11	3) All under 2	11	4	2
Pregnant women	5	5	pregnant women	5	5	pregnant women	5	2	1
60 years old plus	25	24	80 yrs +	4	4	2) 80 yrs+	2	0.5	0.3
All disabled	38	36	Severely disabled	30	28	1) Severely disabled	28	9	5
	100	96		51	48		46	16	8

Source: Authors' calculations from Nigeria General Household Survey 2018–2019 and Ethiopia Socioeconomic Survey 2018–2019.

Results from Table 7 are best read horizontally by country by considering the changes in the total simulated cost across the simulation versions – A through G – in Nigeria (green bold totals) and Ethiopia (orange bold totals).

We see that reducing the costs of transfers by excluding those already covered by government transfers (in simulations B and D) is much smaller (3–10%) than altering the definitions of age and ability to target smaller categorical groups. Moving from the assumption of social floors based on all under-5s, all over-59s and all disabled to the under-2s, over-79s and severely disabled reduces costs by half in both countries.

However, if the constraints on funding mean halving the cost is not enough, then 42% (Nigeria) or 48% (Ethiopia) in simulation D when compared to the original assumption A is not a sufficient reduction – based purely on smaller definitions of categorical groups. Other research (Evans, 2022) has demonstrated how even more tightly defined sub-groups can reduce costs further, but defining those groups in granular terms would not be consistent across countries. For example, the correlations between lone parenthood and child populations differ hugely, as do the correlations of female-headed households with poverty (Milazzo and de Walle, 2017). We use simulations F and G to demonstrate a different way of approaching poverty targeting without a means test – geographically targeting transfers to poorer provinces. We chose an arbitrary one-third of poorest provinces in the first instance for both countries, and this

demonstrated a reduction in cost to 16% of the original assumption A. We then explored what further restriction on poorer states and provinces would be necessary to get the overall cost to below 10% of simulation A. Our findings were that a quarter of the poorest geographical areas was still too large (12–13% of simulation A) and our final results in Table 7 show that only one-fifth of the poorest provinces could be financed at 10% or less of the original budget: a comparative cost of 9% in Nigeria and 8% in Ethiopia.

Discussion

It is important to bear in mind that our approach is at a high level and is illustrative of the general impacts of using a set of assumptions on defining social floors, maximising indirect coverage by not duplicating households who receive other transfers, and crude geographical approaches to prioritise poorer populations. None of these approaches is sufficient when it comes to planning and costing actual transfer reforms – and more nuanced and granular approaches to micro-simulation for such plans is highly recommended, especially with the widening coverage of UN-WIDER ‘Southmod’ micro-simulation models and Commitment to Equity Institute (Tulane University) fiscal incidence analyses.

5.5 Implementation and timing issues

The consideration of ‘fiscal space’ for expansion of social assistance needs to clearly align the types and flows of potential funding to match the requirements of a social assistance response: to both reflect population needs and to effect poverty reduction. One-off investments of capital to construct registries and other systems are different from the on-going recurrent demand for transfers, and both are needed. Are funding resources likely to fluctuate significantly, for example from international market prices for minerals? A funding portfolio of different sources can mitigate against over-reliance on single ‘earmarked’ funding streams. But demand for transfers can be based on ‘entitlement’ or on more ‘discretionary’ approaches. The use of discretion can control overall spending levels to pre-set limits more clearly. On the other hand, budgets set up to reflect ‘demand-led’ entitlement-based spending can also be challenging to control if needs expand in response to contingencies and emergencies and to cyclical economic and seasonal fluctuations. If these are not pre-planned to allow response, then spending is effectively capped: many who need social assistance and ‘qualify’ under the core assumptions of the programme will not receive transfers if the fiscal purse is empty when funding is outstripped by demand.

When we consider funding needs, there are two main requirements: first, the immediate costs of reform and initial expansion of social assistance (both capital and recurrent) to meet and then sustain the need of the current population; and second, the on-going costs of transfer programmes that can keep up with changing demographics

and inflation. The first of these funding needs is the focus of this paper – but the underlying allocation of increasing revenues from economic growth towards maintaining levels and coverage of social assistance lies more squarely with domestic fiscal policy.

6 Illustrative numbers for four approaches to addressing financial constraints

This section brings together the analysis of the four approaches to addressing financial constraints and sets out some illustrative figures to give an indication of the potential scale and importance of the different approaches. There is not space to consider all the possible permutations, and the full model is available on request from the authors.

The starting point is the cost of a standard universal set of social floors:

- All children aged under five
- All pregnant women
- All older people aged 60 or over
- All people who report severe disability

This set is the same as simulation A in Section 5, with the only change being that disability is limited to the severely disabled. As in Section 5, the level of child and maternity benefits is set at 50% of the adult rate, while the severe disability benefit is set at 150% of the adult rate.

The base level of adult benefits is set equal to the international extreme poverty line (PPP\$2.15). The reason for using the same line for all countries – rather than national poverty lines – is that the paper is exploring the use of aid. The use of national poverty lines is appropriate when considering domestic funding needs. But where scarce amounts of aid are being allocated, it is hard to justify reducing funding for LICs in order to fund UMICs, which could fully finance a set of universal floors based on transfers set at the international extreme poverty line, but face a funding gap because their national poverty line is several times higher.

Table 8 sets out the total costs, based on country-by-country assessment, for this universal option and one targeted categorical example. The targeted categorical limits child benefits to 0–2 and

pensions to 80. This is the same as simulation C in Section 5. The table explores costs now and for 2030 based on the UN population projections used in Section 5. The table assumes no increase in the international extreme poverty line (in real terms). For data reasons, North Korea is not included in these figures. While costs could be calculated there is insufficient data to estimate the funding figures in the second part of this section.

Table 8 Costs of universal set of social floors (at PPP\$2.15)

US\$ billions a year (constant 2021\$)	2021	2030	% change
LIC			
Universal	35.7	44.7	25%
Targeted categorical	20.3	24.8	22%
Memo population growth			27%
LMIC			
Universal	172.9	207.8	20%
Targeted categorical	78.3	87.6	12%
Memo population growth			11%

Source: Authors' calculations

In both cases, the growth in costs is primarily driven by population growth. The impact of the targeted categorical approach is to reduce costs in 2030 by 45% in LICs and 58% in LMICs, reflecting markedly different growth rates in the over-60s.

Table 9 sets out current and future domestic funding and explores the possible scale of impact of alternative funding developments. The projections for 2030 are based on latest IMF GDP forecasts to 2027 (World Economic Outlook, 2022), extended to 2030 on the basis of average growth rates for 2010–2019 (deliberately excluding 2020–2022 given the impact of Covid-19). The first set of figures assumes no increase in tax/GDP ratios or the shares of domestic revenues allocated to social assistance. In the absence of any better data at the moment, these figures are based on the assumption that 50% of current social protection spend is allocated to social assistance. In LICs, this is likely to overstate the level of spend on social assistance from domestic resources, where social protection funding may include funding from donors and a large part of domestically funded spending is on contributory insurance for civil servants. The second set of figures assumes an increase in tax/GDP by 2030 as described in Section 2: on average, tax/GDP ratios in LICs increase from 13.9%

to 16.5% and in LMICs from 19.4% to 23.9%. The funding figures in Table 9 are based on country-by-country assessments that underlie the figures in Section 2. As discussed in Section 3, the third set of figures assumes in addition that the average (median) share allocated to social assistance in LICs increases from 5% to 6%, and no increase in share is assumed for LMICs.

Table 9 Illustrative changes in funding for social assistance

US\$ billions a year (constant 2021\$)	2021	2030
LIC		
No change in tax/GDP or social assistance share of revenues	2.2	3.9
Additional funding if increase in tax/GDP		+0.8
Further additional funding if also increase social assistance share of revenues		+1.7
LMIC		
No change in tax/GDP or social assistance share of revenues	238.3	412.7
Additional funding if increase in tax/GDP		+109.1

Source: Authors' calculations

For LICs, funding increases by 77% just as a result of GDP growth, much faster than the growth in costs. The increase in funding from an increase in overall tax/GDP ratios and an increase in social assistance share of revenues adds an additional 20% in each case.

For LMICs, funding increases by 73% just as a result of GDP growth, again much faster than the growth in costs. In percentage terms, the increase from additional tax (26%) is similar to that in LICs. However, their much larger collective GDP implies that this similar change translates into 100 times more spending in dollar terms.

Table 10 explores what these illustrative approaches imply for the external financing gap. As for all the tables in this section, these figures are based on country-by-country analysis. Working just at the aggregate level can result in understating the size of the gaps as this results in surplus countries in effect funding deficit countries.

Table 10 Illustrative financing gaps for universal set of social floors (at PPP\$2.15)

US\$ billions a year (constant 2021\$)	2021	2030
LIC		
No change in tax/GDP or social assistance share of revenues	33.5	40.8
Increase in tax/GDP		40.0
Increase in tax/GDP and increase social assistance share of revenues		39.1
Increase in tax/GDP and increase social assistance share of revenues and targeted categorical floors		19.2
LMIC		
No change in tax/GDP or social assistance share of revenues	52.9	46.3
Increase in tax/GDP		38.8
Increase in tax/GDP and targeted categorical floors		10.1

Source: Authors' calculations

The most striking result from Table 10 is that, without any change in tax/GDP ratios or the share of spend on social assistance, the financing gap in LICs widens by 2030 in dollar terms. This initially seems counter-intuitive. In percentage terms, the increase in funding (77%) is rising so much faster than the costs (25%). However, a 77% increase in a small sum is much less than 25% of a large sum, so the absolute difference still increases.

The second striking result is that neither the increase in tax/GDP ratio nor the increase in the share makes a significant difference to the financing gap in LICs. As noted in previous sections, both the collective GDP of LICs and the share they spend on social assistance are relatively small, so even a 2.6% increase in the tax share of GDP generates very little additional funding for social assistance – just 90 cents per person per year in 2030.

The final striking result is that a shift to targeted categorical floors reduces the financing gaps substantially.

Table 11 explores illustrative scenarios for external funding, drawing

on Section 4. Using the same approach as above, GNI of official donors is estimated to increase by 34% by 2030.

Table 11 Illustrative external funding for social assistance to low-income countries and lower-middle-income countries

US\$ billions a year (constant 2021\$)	2021	2030
LIC		
No change in ODA/GNI ratio or social assistance share of ODA	2.6	3.5
Increase in social assistance share of ODA to 7% (same as education but less than health)		7.7
<i>Memo – financing gap from Table 10 (assuming increase in tax/GDP, increase share of revenues for social assistance and introduction of targeted categorical floors)</i>		19.2
LMIC		
No change in tax/GDP or social assistance share of revenues	3.6	4.8
Increase in social assistance share of ODA to 7% (same as education but less than health)		10.5
<i>Memo – financing gap from Table 10 (assuming increase in tax/GDP, increase share of revenues for social assistance and introduction of targeted categorical floors)</i>		10.1

Source: Authors' calculations

The concluding analysis in Table 11 illustrates how it might be possible to improve coverage of the financing gaps through a combination of changes: increases in tax/GDP ratio and in social assistance's share of domestic revenues and aid and the adoption of targeted categorical floors. However, any one of these changes would be politically challenging and none would be straightforward to achieve. That said, a combined approach is easier to achieve than trying to cover the \$86 billion a year just from new sources of external finance. And, as the analysis shows, just relying on increases in tax/GDP ratios will come nowhere near to filling the gaps in LICs.

7 Conclusion

Covid-19 has increased the need for social assistance, especially in LICs. The latest forecast (World Bank, 2022) suggests there will be only a gradual reduction in 'extreme poverty' over the next eight years, with 574 million people (6.8% of the world's population) still living in extreme poverty in 2030. While many of the extreme poor will be in MICs, poverty rates as a proportion of the population are expected to remain highest in LICs. Even before Covid-19 there was a marked difference, with 44% of the population in extreme poverty in LICs compared with 10% in LMICs.¹⁰

Covid-19 has also increased the financing constraints that LICs (and increasingly LMICs) face in funding social assistance, not least through the increasing number of countries at risk of reaching unsustainable levels of debt. This paper has explored the potential for four approaches to addressing these constraints.

The key conclusions are:

- 1) There is much less potential for lower-income countries to increase their tax revenues than is often claimed. While tax/GDP ratios in the lower-income countries are less than OECD countries, this primarily reflects fundamental structural differences in their economies, which will only change gradually over time.
- 2) The scope for the lower-income countries to increase the share of total revenues allocated to social protection in general and social assistance in particular is much less clear (than for tax/GDP). There is no robust theoretical framework to formally assess the relative merits of switching spending between broad sectors (for example from social sectors to infrastructure spend or even between the health and education sectors). Our analysis is therefore more exploratory and illustrative. Our review of SDG costings and international spending targets shows that the relative financing needs of social protection, health and education are similar. But we also note that there is no shortage of reasons why countries at different stages of development might choose to prioritise one social sector over another, or indeed prioritise infrastructure over social sectors. Our analysis of new figures on the latest spending patterns shows that both LICs and LMICs spend more on education than health or social protection. If a balanced investment approach were the objective, there would

¹⁰ World Development Indicators, accessed 13 December 2022.

seem to be limited scope for LMICs to increase their social protection share (as this is already higher than health). By contrast, if LICs imitate the LMIC spending pattern as they grow, that would imply a doubling of the share they allocate to social protection, from 5% to 10%. Such an increase would contribute to ensuring that the poorest can access education and health services, so that no-one is left behind. This change could occur through a combination of committing a high proportion of future increases in government revenues (from new sources and/or economic growth) to social assistance and reallocating existing expenditures (such as replacing fuel subsidies with social assistance). The change could be funded by a reduction in the shares of any other sector, not necessarily education or health. However, such a change could well only occur over a long time period. Latest WHO analysis of trends in health spending suggests that, by 2030, an increase from 5% to 6% by 2030 would be a more realistic pace of change. What is clear is that the old targets for social protection spending – first 4.5% of GDP and more recently 2.9% of GDP – are unrealistic for LICs, as that would require spending share to jump from 5% to 32% and 21% respectively.

3) There would seem to be some scope for donors to increase social assistance's share of aid to bring it in line with both needs and the relative SDG costs for each social sector. The case for doing so is based on the scale of extreme poverty, the growing interest in lower-income countries in developing long-term social assistance financing plans and the limited potential options for increasing domestic revenues (or increasing borrowing), at least until 2030. One key option for rebalancing would be to draw on the increasing flows of aid for climate finance as social protection can play a key role in addressing climate adaptation and could be a key element of any loss and damage payments.

4) There is clear potential to both control costs and target categorical transfers to poorer populations within countries to ensure support for the most vulnerable and to reduce poverty.

- a. Having a clear understanding of where children, old people and people with disabilities are within the overall household welfare distribution is key to the effective and efficient design of categorical programmes.
- b. Categorical social assistance to older people, young children and people with disabilities is focused on individuals, but the effects and impacts are also at the household level, and each country will have differing patterns of household formation that protect extended family members from lifetime or other risks.
- c. Understanding who currently receives government transfer programmes and who indirectly benefits from those

- through co-residence is crucial to building a case for additional or new categorical transfer programmes.
- d. There is an underlying capacity to both control costs and target categorical transfers to poorer populations that can reflect both a tighter definition of age and disability status and an alignment to sub-national poverty incidence.

The analysis has also highlighted key implementation and timing considerations around any financing of the expansion of social assistance. First, the 'step change' needs for financing are a mix of capital (system set-up) and recurrent (transfer and administration) costs to meet the needs of the current population. Second, medium-term commitments are needed to ensure that social assistance can keep up with changes in prices and demand and can respond to contingencies. Most importantly, across these timing issues sources of finance must be mixed to ensure that levels of coverage and generosity are not held hostage to one risky or fluctuating 'earmarked' source over time, and to ensure that social assistance draws to the maximum extent possible on the general rise in government revenues that follows from economic growth supplemented by increased TE. However, in LICs the financing gaps are so large that even the combination of economic growth and maximising TE will still cover just 13% of the total costs (compared to 81% in LMICs). While categorical targeting will help, that still leaves LICs covering 23% of the costs (and LMICs 88%). The level of long-term aid funding will remain a key determinant of the scope and pace of any expansion of social assistance.

The other issue on timing relates to the time it takes (alongside the fiscal commitment) to build a system that ensures optimal coverage and protects against poverty and vulnerability. Incremental expansion and rebalancing of programme entitlement over time is probably a more financially realistic and sustainable approach compared to committing to a full set of 'social floors' at their most expansive definitions.

Any rebalancing is likely to only occur over some years, and so the scaling up of social assistance is likely to be phased over time. The analysis here highlights the range of phasing options that exist. As the estimates also show, some options would be relatively low cost but would have high impact in terms of poverty reduction. The analysis also shows that approaches to categorical targeting are likely to be very different in each country. However, this analysis does suggest there are multiple categorical options allowing policy-makers scope to pace and scale according to financing availability and shaped by domestic political factors. This analysis provides further evidence that targeting through social registries is likely to be inefficient and costly as demographic structures evolve. This is at odds with the current focus of resources, which is still on the creation of social registries rather than the exploration of categorical

approaches.

Given the views of the political elites in many lower-income countries, donors may need to initiate the rebalancing of aid resources, working in partnership with lower-income country governments to see a parallel but more gradual rebalancing of social protection's share of domestic resources. A credible long-term offer of external finance could be the critical first step in the process. Linking this to climate change might make it easier to accept politically.

The overall conclusion of this analysis suggests that policy-makers should focus less on overall domestic resource mobilisation and costly processes of poverty targeting, and more on exploring the scope to increase social assistance's share of both current domestic and external resources and for cheaper targeted categorical approaches.

As this analysis also highlights the complexities and the degree of variation in context, so the application of such shifts will vary significantly across countries.

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Appendix 1 Revenue

Technical Appendix

A sizeable literature over the past few decades has attempted to better estimate TE, via either cross-country regressions, stochastic frontier analysis (SFA) or non-parametric approaches such as data envelopment analysis (DEA). The SFA approach has been employed in influential research originating at the IMF with Fenochietto and Pessino (2013) and taken further in, e.g., Langford and Ohlenburg (2015) and Mawejje and Sebudde (2019), while recent research from the World Bank (Bogetić et al., 2021) estimates revenue effort by a DEA analysis. These studies model tax collection as a ‘production function’, and the estimated ‘frontier’ corresponds to some theoretical maximum amount of tax revenue a country might be expected to collect, given its underlying inputs. Most often, the models include some combination of controls for: a country’s level of development, economic structure, reliance on aid, population characteristics (e.g. population density); Bogetić et al. include these as an ‘input index’. These variables largely capture influences on the size of the tax *base*. It is inherently more difficult to capture a country’s tax *capacity*, although more recent studies have included indicators capturing the level of governance, from the World Governance Indicators or Varieties of Democracy (V-Dem) dataset, which might broadly capture political will and administrative capacity to tax.¹¹ A country that exerts a higher TE will, thus, find itself closer to the frontier and more ‘efficient’. The recent UNU-WIDER study (McNabb et al., 2021) has highlighted some potentially serious shortcomings in the studies that utilise SFA. In brief, it appears that much of the gap measured between the frontier and actual collections in previous studies was due to unobserved country-specific characteristics (*time-invariant country-specific heterogeneity*) and not ‘inefficiency’, which is what we are ultimately interested in capturing. McNabb et al. (2021) re-estimate the SFA models by the True Random Effects procedure, which accounts for this issue. The result is a set of TE scores that are, on average, higher than previous studies – although this is not surprising, as the ‘inefficiency’ scores are no longer bloated by additional unobserved country-specific characteristics.

Figure 14 contrasts these estimates with comparable ones from USAID Collecting Taxes Database (USAID, 2021) that utilise the

¹¹ See Table 1 in McNabb et al. (2021) for an overview of these key variables.

model outlined in an early IMF study (Fenochietto and Pessino, 2013) but with updated data. Table 12 compares averages by income group between these two studies and the World Bank study, Bogetic et al. (2021), which uses DEA.

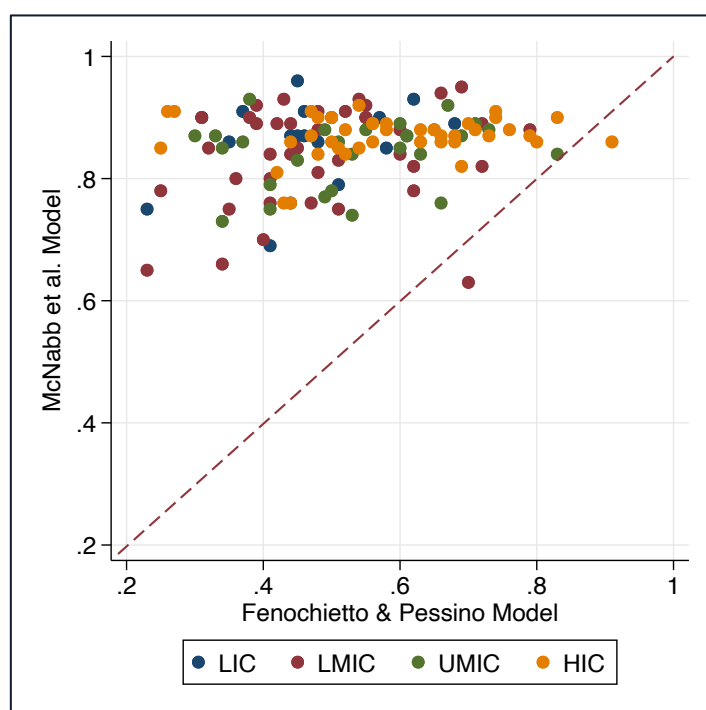
Table 12 Tax effort estimates compared

Country group	Current tax: GDP	Tax effort		
		McNabb et al.	USAID	Bogetic et al.
LIC	11.64%	0.86	0.47	0.58
LMIC	14.73%	0.84	0.49	0.62
UMIC	17.87%	0.84	0.53	0.65
HIC	21.50%	0.87	0.59	Not reported

Country group	Current tax: GDP	Tax potential (% of GDP)		
		McNabb et al.	USAID	Bogetic et al.
LIC	11.64%	13.5%	24.9%	20.1%
LMIC	14.73%	17.6%	30.3%	23.8%
UMIC	17.87%	21.2%	33.5%	27.5%
HIC	21.50%	24.7%	36.4%	N/A

Sources: Authors' estimates plus McNabb et al. (2021), USAID (2021) and Bogetic et al. (2021)

Figure 14 Comparison of tax effort scores using McNabb et al. (2021) model vs. Fenochietto and Pessino model



Note: Average 2015–2018 values shown.

There are a couple of key takeaways from these expositions. First, Figure 14 highlights the extent to which earlier approaches systematically under-estimate TE, with only two estimates using the Fenochietto and Pessino methodology lying below the 45-degree line. It also shows that HICs – which typically collect significantly more in revenue as a share of GDP than LMICs – do not exert a systematically higher TE. Turning to Table 12, we see that, having applied the estimates of TE to recent tax/GDP ratios, the three approaches can yield wildly differing estimates of tax potential. The estimates of McNabb et al. (2021), for example, suggest that, in LICs, the average tax potential sits at just 13.5%, compared to just over 20% in Bogetić et al. and just shy of 25% using the Fenochietto and Pessino methodology.

There are, naturally, several limitations to estimates of TE and revenue effort. First, it is notoriously difficult to control for tax policy and administrative environments in cross-country empirical work. If an untapped tax base exists in a certain country, it requires sound tax policy and a strong tax administration to effectively raise revenue from it. Second, at some point in the process of development, the decision of how much to tax (and how much to spend on, e.g., social protection) becomes more of a political choice (consider, e.g., preferences in the Nordic countries versus the US). It is hard to argue against the fact that most, if not all, LICs would like to collect more revenue and spend more, but the same cannot be said of HICs and likely some UMICs. Finally, TE estimates are, by definition, *backward-looking*. While estimates of tax potential in the past will be broadly indicative of tax potential in the future, changes in country-specific characteristics (such as a shift in the structure of the economy following the discovery of natural resources) would likely change the trajectory of a country's tax potential.

Appendix 2 Current revenue and ODI potential revenue estimates

Economy	Income group	Current tax revenue	ODI tax potential	Total revenue capacity*	Additional potential tax
Burundi	LIC	16%	21%	23%	5%
Somalia	LIC	3%	9%	11%	6%
Mozambique	LIC	22%	23%	24%	1%
Afghanistan	LIC	7%	8%	13%	1%
Madagascar	LIC	10%	11%	12%	1%
Sierra Leone	LIC	12%	13%	16%	1%
Central African Rep.	LIC	8%	10%	11%	1%
Congo, Dem. Rep.	LIC	8%	9%	12%	1%
Niger	LIC	10%	12%	13%	2%
Eritrea	LIC	20%	14%	14%	#N/A
Liberia	LIC	12%	13%	17%	1%
Malawi	LIC	12%	13%	13%	1%
Chad	LIC	7%	11%	14%	4%
Sudan	LIC	3%	4%	6%	1%
Yemen	LIC	7%	14%	14%	7%
Guinea-Bissau	LIC	10%	11%	14%	0%
Gambia	LIC	11%	12%	16%	1%
Uganda	LIC	13%	15%	16%	2%
Rwanda	LIC	15%	19%	22%	4%
Burkina Faso	LIC	14%	16%	19%	2%
Mali	LIC	14%	17%	21%	3%
Syria	LIC	11%	14%	24%	4%
Ethiopia	LIC	10%	16%	17%	6%
Togo	LIC	13%	15%	17%	2%
Guinea	LIC	12%	15%	15%	2%
Zambia	LIC	16%	22%	25%	6%
South Sudan	LIC	19%	22%	22%	3%

Myanmar	LMIC	6%	20%	29%	14%
Tanzania	LMIC	12%	13%	16%	2%
Tajikistan	LMIC	17%	18%	24%	1%
Kyrgyzstan	LMIC	14%	16%	26%	2%
Nepal	LMIC	23%	24%	27%	1%
Lesotho	LMIC	33%	55%	59%	22%
Benin	LMIC	9%	13%	14%	3%
Zimbabwe	LMIC	16%	26%	27%	9%
Haiti	LMIC	6%	8%	8%	2%
Comoros	LMIC	8%	10%	12%	2%
Pakistan	LMIC	10%	11%	14%	1%
Senegal	LMIC	17%	19%	20%	2%
Cambodia	LMIC	18%	19%	21%	1%
Cameroon	LMIC	13%	14%	17%	1%
Congo, Rep.	LMIC	9%	11%	23%	2%
Mauritania	LMIC	11%	13%	21%	1%
Angola	LMIC	21%	41%	42%	20%
Timor-Leste	LMIC	7%	12%	50%	5%
Uzbekistan	LMIC	19%	30%	38%	10%
Kenya	LMIC	12%	15%	18%	3%
Nicaragua	LMIC	17%	18%	26%	1%
Nigeria	LMIC	5%	6%	8%	2%
India	LMIC	17%	23%	26%	5%
São Tomé and Príncipe	LMIC	12%	14%	17%	2%
Solomon Islands	LMIC	22%	26%	29%	3%
Ghana	LMIC	12%	13%	15%	1%
Côte d'Ivoire	LMIC	12%	16%	18%	3%
Laos	LMIC	9%	10%	12%	1%
Honduras	LMIC	12%	14%	25%	1%
Bangladesh	LMIC	9%	13%	14%	4%
Papua New Guinea	LMIC	12%	13%	14%	1%
Bhutan	LMIC	13%	14%	22%	1%
Kiribati	LMIC	24%	28%	104%	4%
Vanuatu	LMIC	14%	16%	32%	2%
Djibouti	LMIC	11%	13%	19%	2%
Cabo Verde	LMIC	21%	24%	29%	3%
Morocco	LMIC	20%	28%	32%	7%
Bolivia	LMIC	19%	22%	33%	3%
Iran	LMIC	6%	6%	15%	1%
Lebanon	LMIC	10%	11%	14%	1%

Egypt	LMIC	13%	17%	21%	4%
Vietnam	LMIC	15%	23%	26%	8%
Tunisia	LMIC	23%	27%	39%	3%
Philippines	LMIC	14%	16%	18%	2%
Algeria	LMIC	14%	17%	27%	3%
Eswatini	LMIC	28%	31%	31%	3%
Mongolia	LMIC	23%	27%	34%	3%
Sri Lanka	LMIC	8%	11%	12%	3%
Samoa	LMIC	26%	30%	34%	4%
Micronesia	LMIC	11%	13%	33%	2%
Ukraine	LMIC	26%	30%	44%	5%
Indonesia	LMIC	9%	14%	17%	5%
El Salvador	LMIC	19%	20%	21%	2%
West Bank and Gaza	LMIC	5%	6%	7%	1%
Belize	UMIC	29%	34%	37%	5%
Suriname	UMIC	16%	20%	28%	4%
Jordan	UMIC	22%	31%	36%	9%
Namibia	UMIC	31%	37%	39%	6%
Armenia	UMIC	18%	22%	25%	4%
Georgia	UMIC	22%	27%	31%	5%
Jamaica	UMIC	26%	29%	31%	3%
Fiji	UMIC	15%	17%	20%	2%
Azerbaijan	UMIC	15%	19%	23%	4%
Guatemala	UMIC	10%	12%	13%	2%
Kosovo	UMIC	2%	2%	75%	0%
Iraq	UMIC	1%	1%	39%	0%
Marshall Islands	UMIC	18%	21%	52%	3%
Tonga	UMIC	21%	25%	28%	3%
Paraguay	UMIC	10%	11%	15%	2%
Moldova	UMIC	20%	22%	34%	2%
Equatorial Guinea	UMIC	6%	7%	17%	1%
Ecuador	UMIC	13%	14%	22%	1%
Albania	UMIC	18%	21%	28%	3%
North Macedonia	UMIC	17%	23%	35%	6%
Colombia	UMIC	17%	19%	24%	2%
South Africa	UMIC	25%	29%	38%	3%
Peru	UMIC	13%	17%	22%	4%
Tuvalu	UMIC	16%	19%	79%	3%
Bosnia and Herzegovina	UMIC	20%	25%	43%	4%

Botswana	UMIC	27%	39%	49%	12%
Belarus	UMIC	22%	30%	47%	8%
Gabon	UMIC		22%	23%	#N/A
Turkmenistan	UMIC	11%	11%	11%	0%
Thailand	UMIC	16%	19%	24%	3%
Brazil	UMIC	23%	26%	63%	3%
Dominica	UMIC	23%	26%	59%	4%
St. Vincent and the Grenadines	UMIC	22%	25%	27%	4%
Dominican Republic	UMIC	12%	14%	16%	2%
Maldives	UMIC	18%	22%	28%	3%
Libya	UMIC	1%	4%	77%	3%
Serbia	UMIC	24%	28%	45%	4%
Cuba	UMIC	33%	39%	43%	5%
Kazakhstan	UMIC	16%	18%	20%	2%
Montenegro	UMIC	23%	26%	38%	3%
Guyana	UMIC	21%	24%	26%	3%
Mexico	UMIC	14%	15%	19%	1%
Grenada	UMIC	21%	24%	28%	3%
St. Lucia	UMIC	18%	21%	22%	3%
Türkiye	UMIC	17%	20%	35%	4%
Argentina	UMIC	24%	26%	32%	2%
Bulgaria	UMIC	21%	25%	41%	3%
Mauritius	UMIC	22%	23%	25%	1%
Malaysia	UMIC	10%	15%	19%	5%
Russia	UMIC	23%	26%	34%	3%
China	UMIC	16%	22%	30%	5%
Costa Rica	UMIC	13%	16%	28%	3%
Venezuela	UMIC	13%	16%	26%	3%

Source: Author's calculation from UNU WIDER, McNabb et al. (2021), IMF Government Finance Statistics.

*Total revenue capacity is calculated as the sum of tax potential, current social contributions and current non-tax revenue.

Appendix 3 ODI estimates of latest level of government expenditure on social protection, health and education

Government expenditure on social protection, health and education							
		Expenditure, as percentage of government revenue			Expenditure, as percentage of target		
Economy	Income group	Social protection	Education	Health	Social protection (Target 14%)	Education (Target 16.5%)	Health (Target 12%)
Burundi	LIC	8.1	22.6	18.7	58	137	156
Somalia	LIC	18.2	3.8	3.8	130	23	32
Mozambique	LIC	9.1	22.3	15.1	65	135	125

Afghanistan	LIC	4.6	12.5	5.2	33	76	43
Madagascar	LIC	17.4	25	12.1	124	151	101
Sierra Leone	LIC	3	44.1	14.5	22	267	121
Central African Rep.	LIC	12.8	10	6.2	91	60	51
Congo, Dem. Rep.	LIC	4.8	30.2	14.5	34	183	121
Niger	LIC	1.3	21.9	15.9	9	132	132
Liberia	LIC	1	8.6	6	7	52	50
Malawi	LIC	16.9	19.7	17	121	119	142
Chad	LIC	2.9	13.8	5.9	21	83	49
Uganda	LIC	1.8	19.1	4.1	13	116	34
Rwanda	LIC	8.2	16.5	18.6	59	100	155
Burkina Faso	LIC	7	27.9	15.4	50	169	129
Mali	LIC	9.9	17.5	7.8	71	106	65
Ethiopia	LIC	1.9	14	12.5	14	85	104
Togo	LIC	0.3	24.6	8.4	2	149	70
Zambia	LIC	5.5	15.5	13.7	39	94	114
South Sudan	LIC	0.5	4.2	2.7	3	26	23
Myanmar	LMIC	5.8	13.3	5.2	41	81	43
Tanzania	LMIC	11.3	22.6	15.1	81	137	126
Tajikistan	LMIC	19.1	23	8.3	136	139	69
Kyrgyzstan	LMIC	30.7	15.8	7.1	219	96	59

Nepal	LMIC	18.4	19.9	5.3	131	120	44
Lesotho	LMIC	15.1	18.8	16.3	108	114	135
Benin	LMIC	7	21	6.3	50	127	53
Zimbabwe	LMIC	19.5	31.5	12.7	139	191	106
Haiti	LMIC	5.9	19.6	7	42	119	58
Pakistan	LMIC	6.7	20.1	9	48	122	75
Senegal	LMIC	8.7	27.3	6	62	165	50
Cambodia	LMIC	6.5	8.1	7.4	47	49	61
Cameroon	LMIC	8.3	23.6	3.4	60	143	28
Congo, Rep.	LMIC	7	20	3.9	50	121	32
Mauritania	LMIC	9.7	8.5	5.6	70	51	46
Angola	LMIC	7.5	11.5	5.1	54	70	43
Timor-Leste	LMIC	19.8	13	10.8	141	79	90
Uzbekistan	LMIC	28.1	18.9	9	201	115	75
Kenya	LMIC	8.7	28.9	13.1	62	175	109
Nicaragua	LMIC		17.2	19.5		105	163
India	LMIC	22.2	24.5	5.5	159	148	45
Solomon Islands	LMIC	1.3	38.4	13.1	9	233	109
Ghana	LMIC	8.1	27.6	11.1	58	167	92
Laos	LMIC	5.2	17.2	11.2	37	104	93
Honduras	LMIC	11.1	25.7	12	80	156	100
Bangladesh	LMIC	12.8	14	5.5	91	85	46

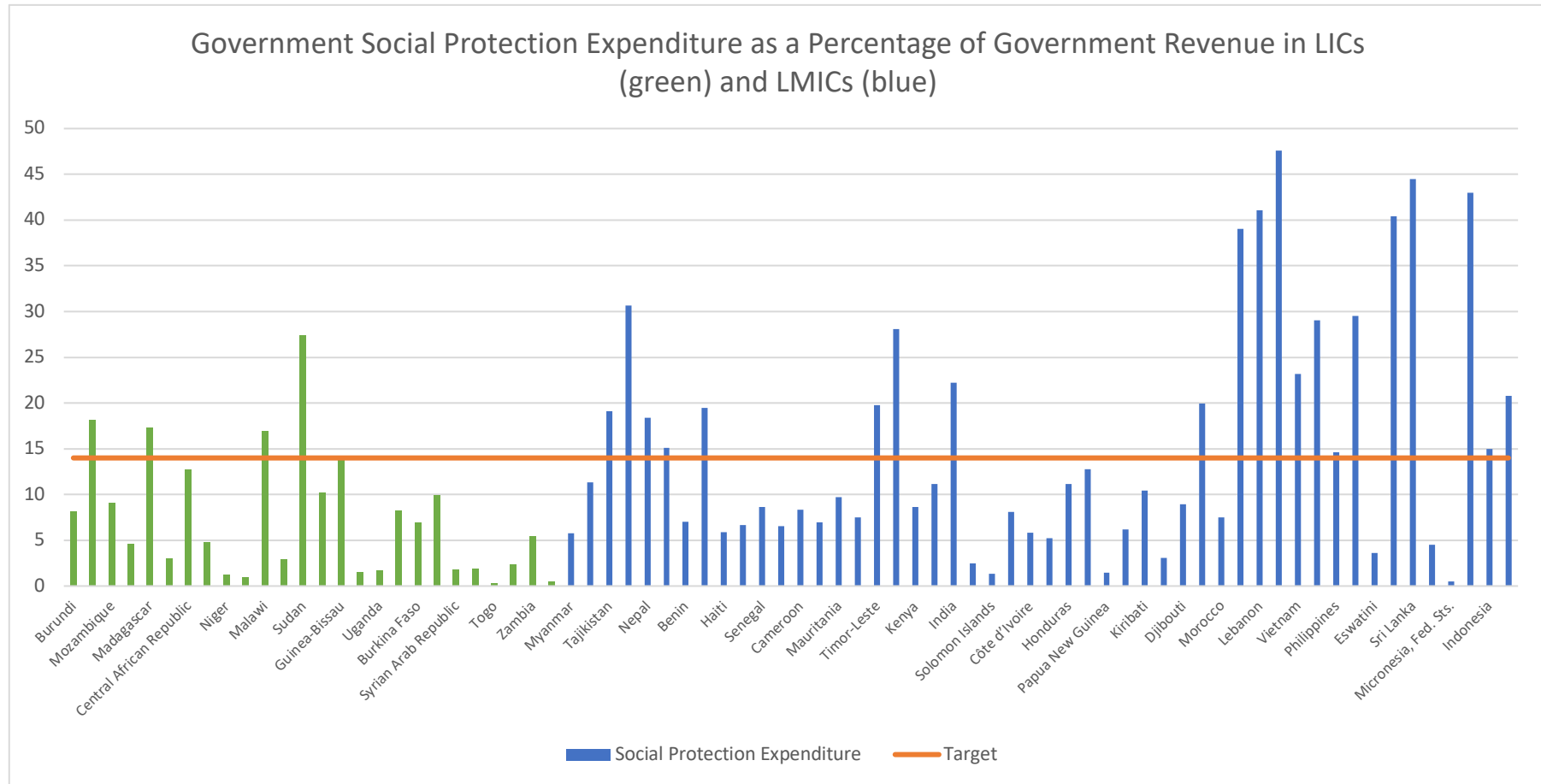
Bhutan	LMIC	6.2	21.1	8.2	44	128	69
Kiribati	LMIC	10.5	9.8	8	75	60	66
Vanuatu	LMIC	3.1	5.3	6.2	22	32	51
Djibouti	LMIC	8.9	16.6	4.9	64	101	41
Cabo Verde	LMIC	20	28.6	13.2	143	173	110
Morocco	LMIC	7.5	23.7	9.5	54	143	79
Bolivia	LMIC	39	35.2	19.8	279	214	165
Lebanon	LMIC	41.1	12.3	29.7	293	75	248
Egypt	LMIC	47.6	12.4	6.8	340	75	57
Vietnam	LMIC	23.2	21.9	12.6	166	133	105
Tunisia	LMIC	29	28.4	15.5	207	172	129
Philippines	LMIC	14.6	19	8.3	104	115	69
Algeria	LMIC	29.5	20.2	13.5	211	123	112
Eswatini	LMIC	3.6	17.2	15.2	26	104	127
Mongolia	LMIC	40.4	14.3	7	288	87	58
Sri Lanka	LMIC	44.5	21	21.6	318	128	180
Samoa	LMIC	4.5	12.3	13	32	75	108
Micronesia	LMIC	0.5	1.9	13.7	4	11	114
Ukraine	LMIC	43	16.5	8.8	307	100	74
Indonesia	LMIC	15	25.7	10.5	107	156	87
El Salvador	LMIC	20.8	17.2	19.7	148	104	164
Belize	UMIC	8	28.6	13.7	57	173	114

Suriname	UMIC	5.9	18.4	28.5	42	112	238
Jordan	UMIC	39.7	16.2	17.5	283	98	145
Armenia	UMIC	34.5	10.7	5.9	246	65	49
Georgia	UMIC	44.9	15.1	10.3	321	92	86
Jamaica	UMIC	3.3	19.2	12.9	24	117	108
Fiji	UMIC	16.6	30.6	12.9	118	186	108
Azerbaijan	UMIC	17.6	7.3	3.5	126	45	30
Guatemala	UMIC	32.7	26.6	18.6	234	161	155
Iraq	UMIC	24.2	15	7.1	173	91	59
Tonga	UMIC	5	11.7	8.8	35	71	74
Paraguay	UMIC	29.7	17.2	17.2	212	105	144
Moldova	UMIC	40.9	20	12	292	121	100
Ecuador	UMIC		14	16.4		85	137
Albania	UMIC	42.7	12	11.1	305	73	93
Colombia	UMIC	38.5	18.6	22.5	275	112	187
South Africa	UMIC	25.5	23.2	16.4	182	140	137
Botswana	UMIC	15.5	27.6	15.7	111	167	131
Belarus	UMIC	39.4	14.1	11.7	282	85	98
Thailand	UMIC	26.9	14.8	13.5	192	90	113
Brazil	UMIC	79.1	7.3	13.3	565	44	111
Dominica	UMIC	13.5	8.7	6.5	96	53	54

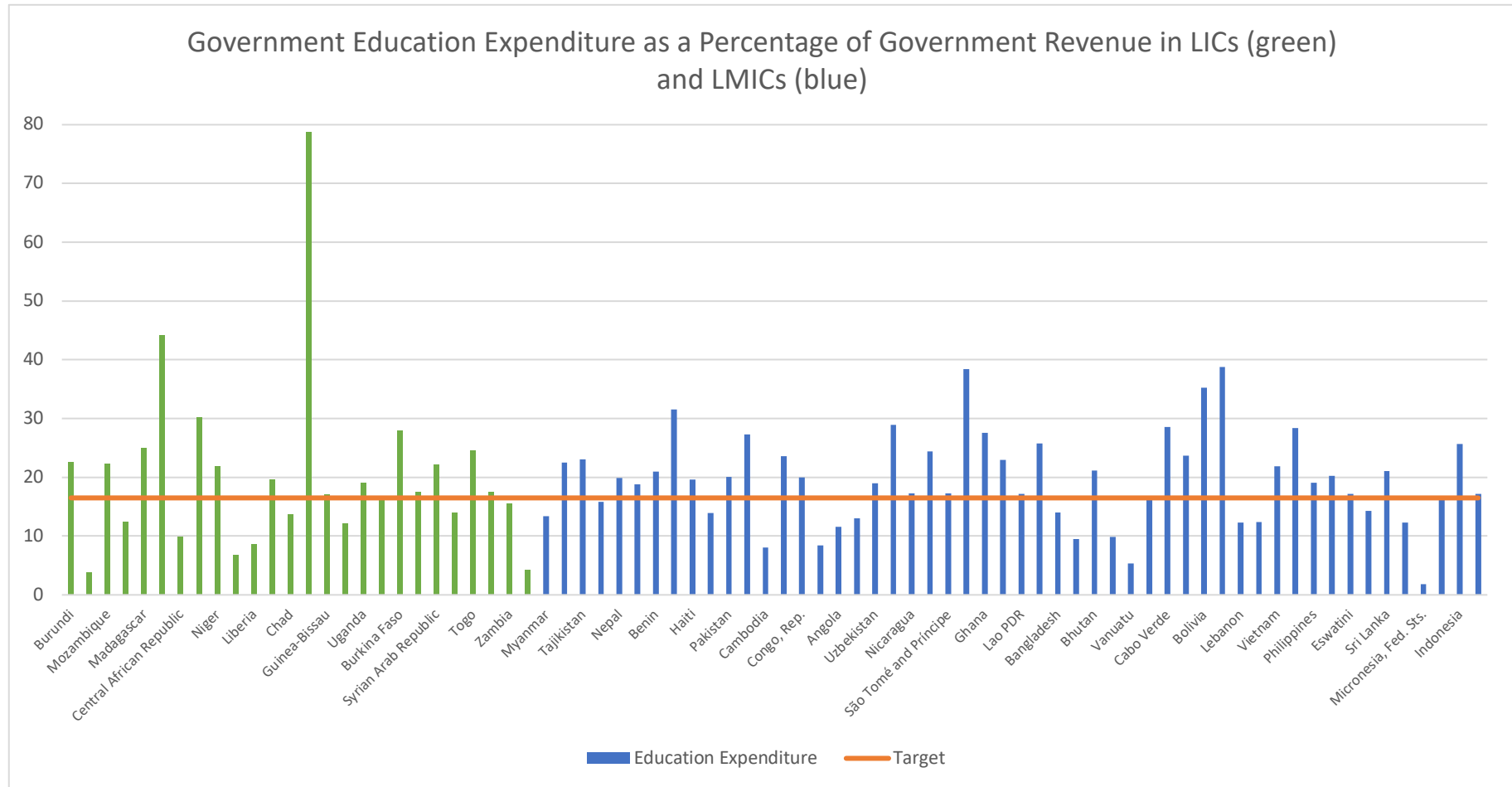
Dominican Republic	UMIC	33.5	32.6	18.9	239	197	157
Maldives	UMIC	9	15.6	24.7	64	94	206
Serbia	UMIC	50.4	8.8	13	360	53	108
Kazakhstan	UMIC	34.6	25.7	8.9	247	156	74
Guyana	UMIC	12.4	23.7	15.9	88	144	133
Mexico	UMIC	25.3	18.2	11.5	180	111	96
Grenada	UMIC	13.3	12.6	7.3	95	76	61
St. Lucia	UMIC	13.6	16.5	9.6	97	100	80
Türkiye	UMIC	45.1	12	12.1	322	73	101
Bulgaria	UMIC	35.4	10.8	11.5	253	65	96
Mauritius	UMIC	40.4	18.7	11.8	289	113	98
Russia	UMIC	38.4	10.1	9.3	275	61	78
China	UMIC	34	13.9	11.7	243	84	97
Costa Rica	UMIC	46.2	42.3	33.9	330	257	283

Source: Author's calculation from ILO (2020), IMF GFS, Government Spending Watch, WHO, World Bank, UNU WIDER, UNICEF Budget Briefs, National Budget Documents.

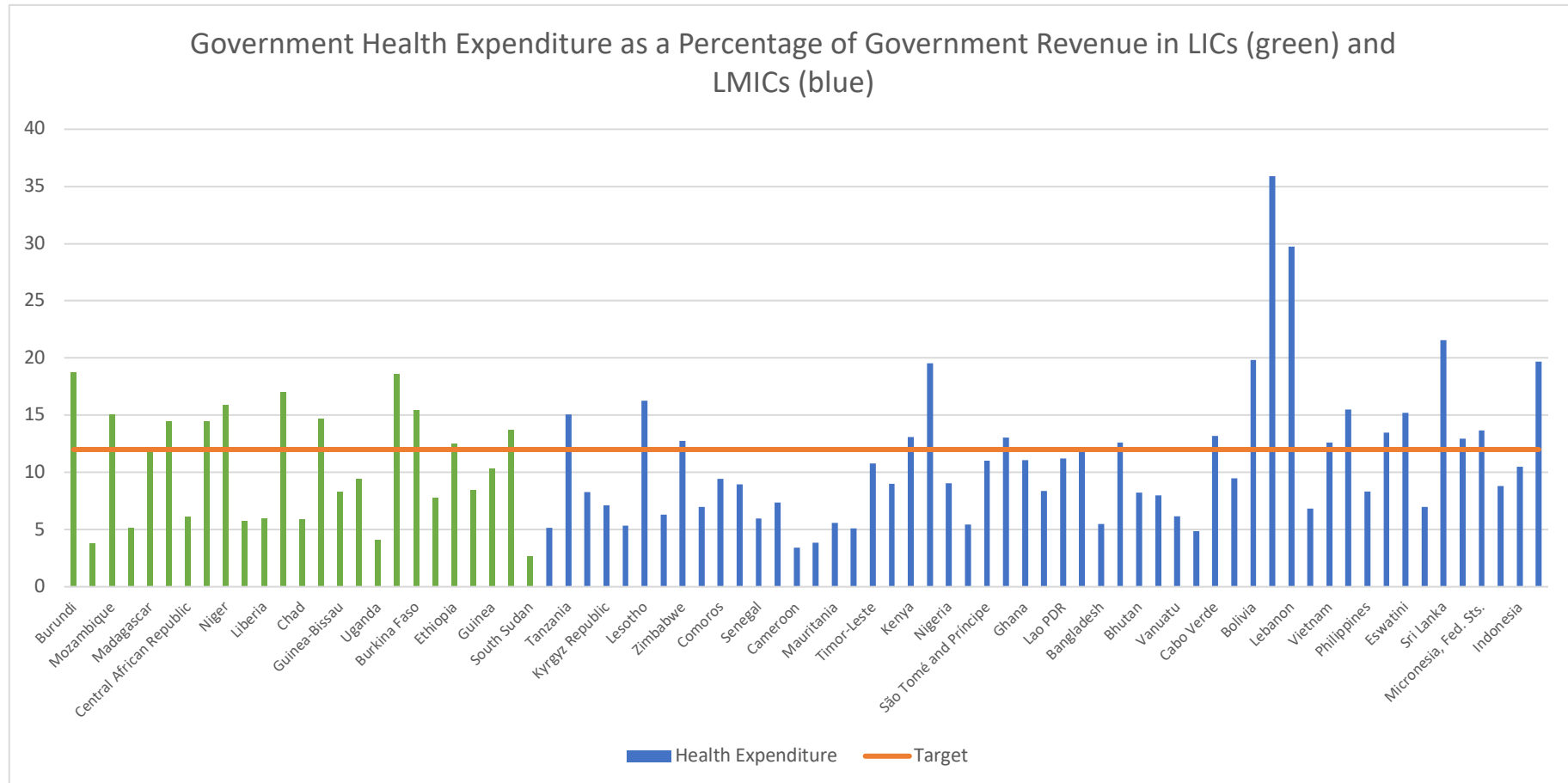
Appendix 4 Additional analysis of latest level of government expenditure on social protection, health and education



Source: Author's calculation from ILO (2020), IMF Government Finance Statistics, Government Spending Watch, UNU WIDER, UNICEF Budget Briefs, National Budget Documents.



Source: Author's calculation from IMF Government Finance Statistics, Government Spending Watch, World Bank, UNU WIDER.



Source: Author's calculation from IMF Government Finance Statistics, Government Spending Watch, WHO, World Bank, UNU WIDER.