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Investments in social protection and their impacts on economic growth

JOBS
CLIMATE-FRIENDLY JOBS
RIGHTS
SOCIAL PROTECTION
EQUALITY
INCLUSION

A New Social Contract for Recovery and Resilience

This study has been conducted by Development Pathways on behalf of the International Trade Union Confederation, with financial support provided by Friedrich-Ebert-Stiftung and the ILO Bureau for Workers Activities (ACTRAV).

Contents

Acronyms

AIDS	Acquired immune deficiency syndrome
APC	Average propensity to consume
ASEAN	Association of Southeast Asian Nations
ASIS	Assessing Social Investment Synergies
BDT	Bangladeshi taka
CCT	Conditional cash transfer
CES	Constant elasticity of substitution
CGE	Computable General Equilibrium
COP	Colombian peso
COVID-19	Coronavirus disease 2019
CRC	Costa Rican colón
CSAE	Centre for the Study of African Economies
DANE	Colombia's National Administrative Department of Statistics comonly (Departamento Administrativo Nacional de Estadística)
DFID	Department for International Development
EICV/IHLCS	Enquête intégrale sur les Conditions de Vie des ménages / Integrated Household Living Conditions Survey
ENAHO	Encuesta Nacional de Hogares
ENIGH	Costa Rica's National Household Income and Expenditure Survey (Encuesta Nacional de Ingresos y Gastos de los Hogares)
ENPH	Colombia's National Household Income and Expenditure Survey (Encuesta nacional de presupuestos de los hogares)
ESP	Expanding Social Protection
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GED	Government of Bangladesh, General Economics Division
GEL	Georgian lari
GHS	Ghanaian cedi
GLSS	Ghana Living Standards Survey
GSS	Ghana Statistical Service
HIES	Bangladesh Household Income and Expenditure Survey
HSNP	Hunger Safety Net Programme (Kenya)
IFPRI	International Food Policy Research Institute
IHDS	India Human Development Survey
ILO	International Labour Organization
INR	Indian rupee
IO	Input-Output

ISSER	Institute of Statistical, Social and Economic Research (University of Ghana)
ITUC	International Trade Union Confederation
LEAP	Livelihood Empowerment Against Poverty
LES	Linear Expenditure System
LEWIE	Local economy-wide impact evaluation
MERIT	United Nations University-Maastricht Economic and Social Research Institute on Innovation and Technology
MGLSD	Ministry of Gender Labour and Social Development
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee
ODI	Overseas Development Institute
OECD	The Organisation for Economic Co-operation and Development
PEP	Partnership for Economic Policy
PSNP	Productive Safety Net Program
RDS	Serbian dinar
ROW	Rest of the World
RWF	Rwandan franc
SAM	Social accounting matrix
SCG	Senior Citizens Grant
SDG	Sustainable Development Goals
SORS	The Statistical Office of the Republic of Serbia
SPF	Social Protection Floor
UCT	Unconditional cash transfers
UN	United Nations
UN DESA	United Nations Department of Economic and Social Affairs
UN ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNU-MERIT	United Nations University-Maastricht Economic and Social Research Institute on Economic Innovation and Technology
UNU-WIDER	United Nations University-World Institute for Development Economics Research
US	United States
VUP	Vision 2020 Umurenge Programme

Foreword

The COVID-19 pandemic has brutally revealed the vulnerability of the world's poorest to economic shocks and inadequate healthcare. The absence of social protection for the majority of the world's population has meant that people have had to continue to work when they are at risk of becoming infected and infecting others, thus spreading the virus and adding to the human misery and economic destruction the world is facing.

The time has come to extend social protection to the half of the world's people who have none and to the almost 20% who only have only partial coverage. Many governments are finally having to recognise the urgency of social protection – including unemployment protection for people who have lost their livelihoods, paid sickness benefits and access to healthcare.

Social protection is essential for the resilience that we need to build into the foundations for recovery from the pandemic's effects. Opponents of universal social protection claim that it costs too much, but this report shows that there is a healthy return on investing in it.

By applying robust assessment of the impact of investing the equivalent of just 1% of GDP in each of eight countries, the research shows:

- positive returns on the economy overall, stimulating growth;
- creation of new jobs;
- increased tax payments;
- less poverty; and
- reduced barriers to women entering or returning to work.

The ITUC is calling for urgent action to create a Global Social Protection Fund to support the poorest countries and for a concerted worldwide effort to make social protection universal. The moral imperative of global solidarity to support the most vulnerable is evident. The public health case is also clear – not only to provide social protection for those deprived of it, but also to suppress virus transmission and mutation, thus protecting everyone. The false arguments that the cost is too high can no longer be allowed to determine international policy on this issue. What's good for people is good for the economy, and this report underlines that.

Sharan Burrow
ITUC General Secretary

Executive summary

Social protection is an internationally recognised human right, and it plays an important role in supporting and raising living standards and fostering social and economic development. The COVID-19 pandemic has, moreover, reaffirmed the importance of social protection systems in terms of mitigating the impacts of the health and economic crises and supporting a robust and inclusive economic recovery. Social protection is not only an investment in people, it is also an investment in the broader economy; it can trigger a virtuous economic cycle that increases employment, productivity, tax revenue and overall economic growth, especially in developing countries. This report describes the effects of simulated investments in social protection policies on the economy of eight countries in four continents (Bangladesh, Colombia, Costa Rica, Georgia, Ghana, India, Rwanda, Serbia), focusing on domestic macro-economic indicators (gross domestic product, employment, production factors value added and income, and tax revenues), and micro-economic indicators (households' income by wealth quantiles, poverty and inequality).

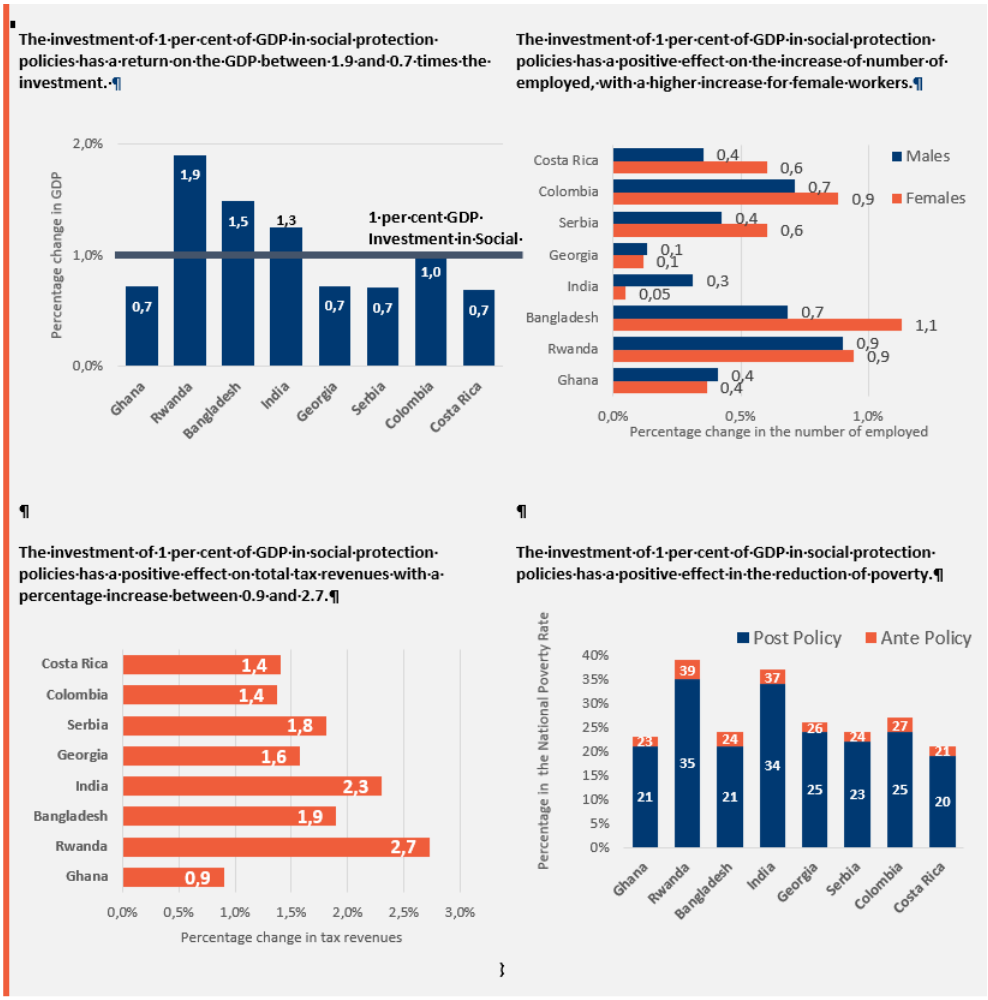
This study shows how **social protection investments generate positive returns in terms of overall economic growth**. An investment of 1 per cent of GDP in social protection policies has a multiplier effect on GDP of between 0.7 and 1.9 in the eight case studies, meaning all countries have a return from the investment, and some have an economic gain. Economies with strong integration of the production process with the domestic economy and a lower level of GDP benefit the most from the investments in social protection (i.e., Bangladesh, India, Rwanda). Therefore, investments in social protection appear to have a higher effect on economic growth in countries with a lower GDP per capita. Countries with higher levels of income also have beneficial effects but lower in magnitude. Indeed, in countries with a higher level of income and more considerable openness to international trade, the increased domestic consumption due to the increase of transfers to households is not fully translated into domestic production increase, leading to a rise in imports.

Investments in social protection positively affect employment opportunities. An investment of 1 per cent of GDP in social protection has a positive effect on rising employment, with a multiplier effect between 0.1 and 1.1 in the eight case studies. In most cases, the employment gains are greatest for women – which underlines the positive role that social protection can play in reducing gender inequalities in the labour market. The analysis also shows that social protection investments increase the overall employment supply. Indeed, the existing evidence shows that social protection plays an important part in helping otherwise liquidity-constrained households to cope with adverse shocks. Households are better able to smooth consumption and thus rely less on negative coping strategies, such as the sale of assets and the withdrawal of children from school. This means that households may, for example, engage in more risks in terms of innovation and invest more in human capital, facilitating longer job search activities. The simulations indicate that social protection investments induce an increase of labour demand, especially in labour-intensive economies and typically in the economies where agriculture is the most important sector and where domestic sectors are more interlinked.

Total tax revenues increase with investments in social protection. The analysis shows that by investing in social protection, fiscal revenues increase, making social protection funding less dependent on external sources. Investment of 1 per cent of GDP in social protection has a positive effect on total government tax revenues: between 0.6 per cent and 3.5 per cent in the eight case studies. Whereas the 1 per cent GDP level of investment is challenging in the context of low- and middle-income countries, where government revenue is limited, investing in a social protection stimulus packages can reduce losses in government revenue more rapidly in times of recession. As an economy shrinks, tax revenues fall. However, suppose a stimulus package enables the economy to recover more quickly. In that case, tax revenues subsequently recover faster, and through the continuous investment in social security, the economy will grow at a faster rate than it did before a crisis, which in turn has the potential to lead to further growth in tax revenues. Moreover, while gross

national debt may rise initially due to a large cash injection, a larger stimulus package will reduce debt in the long run thanks to the rapid economic growth.

Figure 1: Investments in social protection policies have positive returns in economic growth, employment, tax returns and poverty reduction.



Investments in social protection push a consistent part of the population out from poverty and reduce gender and income inequalities. The pandemic risks reversing the progress made during the last three decades in reducing global poverty and will increase inequalities. By definition, social protection schemes should reduce and prevent poverty and vulnerability, as well as provide a buffer against lifecycle and environmental shocks. In the case of the latter, the literature highlights the importance of social protection programmes in bringing about positive social and psychological outcomes to vulnerable categories of the population. In particular, a number of studies point to the role of old-age pensions in reducing social exclusion and the likelihood of living in poverty. Investment in social protection has been shown to reduce the level of income inequality and poverty both in the short and the long term. This study confirms the positive effect of investments in social protection on reducing income inequality and the number of people living in poverty.

1 Introduction

Social protection, through a collection of measures, provides income security to individuals and households. It is internationally recognised as a fundamental human right[1], and countries are advised to develop, improve and maintain systems that protect all citizens from lifecycle risks and covariate shocks. The ambition to extend and reinforce social protection systems is reflected in numerous international agreements and international labour standards, notably ILO Convention 102 and ILO Recommendation 202. A global commitment to increase social protection is set out in Target 1.3 of the Sustainable Development Goals.[2] The need to improve existing systems has also been exemplified with the current global health and economic crises brought about by the COVID-19 pandemic, a time during which a great number of people have had no support (Marcos Barba, van Regenmortel and Ehmke, 2020).

There is a strong case for investing in systems that protect people from income insecurities. A growing body of literature shows the various positive impacts of social protection programmes – especially income support programmes – on a number of outcomes across different dimensions (Mathers and Slater, 2014; Bastagli et al., 2016; and Hemerijck, Burgoon, Pietro and Vydra, 2016). Despite unfounded theories that social protection makes people "lazy", there is substantial evidence which suggests the opposite (Mathers and Slater, 2014). In fact, social protection has been shown to increase human capital through better outcomes in health and education (Bastagli et al., 2016), increased labour force participation (Mathers and Slater, 2014), and positive impacts on the local economy through different channels and multiplier effects (Thome, Taylor, Filipski, Davis and Thome et al., 2016).

Still, investment in social protection has not been continuous across time and varies considerably from country to country. While many high-income countries invest significant portions of their budget in social protection, low- and middle-income countries are struggling to invest adequately in national systems. On average, the world is spending 2.5 per cent of GDP on social protection, which varies significantly by regions. For instance, countries in Europe are spending on average 18 per cent of their GDP on social protection, while countries in Southeast Asia spend less than 2 per cent (ILO, 2017). Consequently, a great number of people globally remain without access to social protection. According to the ILO, half of the world's population have no access to social protection systems, and another 23 per cent only have inadequate access to such systems (ILO, 2017).[3] Such individuals are living predominantly in low- and middle-income countries where social risks are greater, and people are more vulnerable.

With competing budgets, governments have to be accountable and decide wisely where and how to invest public money. And, like any other investment, it is important for governments to understand what the economic return on investment is for social protection. While the evidence already shows that there are positive and meaningful social impacts at household and community levels, and that conceptually these will lead to better aggregate economic outcome, not many papers have been able to robustly link transformative social impacts at the household level with economic growth. In particular, not many studies have attempted to simulate the direct and indirect impacts of social protection on economy-wide outcomes. This study aims to contribute to this literature by understanding the economic outcomes of investing in social protection in different country contexts. This is achieved by reviewing the existing literature and conceptual frameworks, and by simulating – in an ex-ante framework – the impacts of investments in social protection on indicators that capture economic performance for a select number of low- and middle-income countries.

The simulations show what would be the impact of increasing social protection investments on economic inclusive growth. The simulations are carried out for eight countries across different parts of the world, and with different existing levels of investment. The countries are Bangladesh, Colombia, Costa

1 For example, Article 22 of the Universal Declaration of Human Rights states that "[e]veryone, as a member of society, has the right to social security".
2 Target 1.3 states "Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable".
3 This is using the ILO's definition, which also includes coverage to health services.

Rica, Georgia, Ghana, India, Rwanda, and Serbia. The country selection criteria were based on data requirements, geographical spread and relevance in terms of national-level debates on social protection. For each country, three investment scenarios are simulated. In two scenarios, we consider increasing investments in social protection by 1 and 2 per cent of GDP, and in a third scenario, we consider the social protection floor index to close the income gap.

In addition to this introduction, this report has six more sections. In Section 2, we define social protection and provide a summary overview of existing levels of coverage and public spending on social protection. Section 3 presents the conceptual framework linking social protection investments to economic outcomes and the supporting literature. Sections 4 and 5 present the modelling methodology and data to be used for the macro-micro model. In Section 6, we define the investment scenarios to be simulated and the indicators which we will look at in the simulations.

2 Current state of social protection

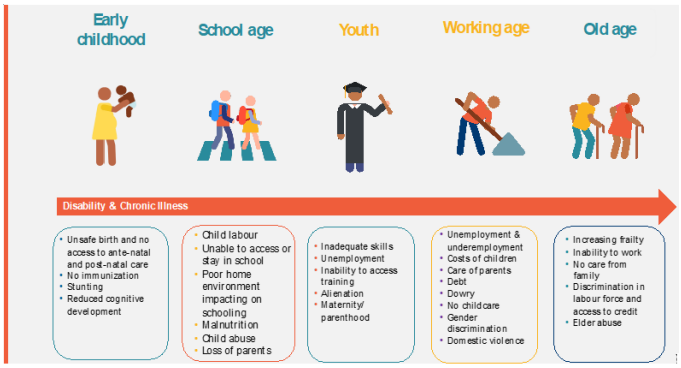
Countries are obliged to secure the right to a minimum level of social protection to individuals, as social protection is recognised as a human right that has been enshrined in the Universal Declaration of Human Rights (1948) and is recognised under international human rights law. However, definitions of social protection vary across countries and agencies around the world.[4] In this section, we present the broad definition used in this research, which is closely linked to that defined by the ILO. Here we also summarise the current state of social protection both in terms of coverage and spending levels.

2.1 Definitions

According to the ILO, social protection (or social security) is understood as a collection of policies and measures that reduce income insecurities and prevent vulnerabilities across the lifecycle (ILO, 2017). A social protection system should ensure that all individuals have, at the very least, an adequate standard of living during the course of their life. Social protection schemes should reduce and prevent poverty and vulnerability, as well as provide a buffer against lifecycle and environmental shocks.

Social protection programmes, as specified by the ILO Social Security (Minimum Standards) Convention, 1952 (No. 102), include medical care, sickness benefits, child or family benefits, disability benefits, unemployment benefits, old age pensions, employment injury benefits, maternity and survivor benefits. Figure 1 illustrates potential risks that emerge throughout the lifecycle, all of which can result or be caused by income loss. A well-designed social protection system addresses these risks that are common to everyone at different stages of life. For example, child or family benefits provide families with resilience to cope with risks that arise during earlier stages of life. Sickness, unemployment, employment injury and maternity benefits are income replacement programmes for critical periods of working life. And when people stop working in old age, pensions provide income replacement.

Figure 2: Depiction of lifecycle risks



Source: elaborated by Development Pathways

Social protection programmes can be distinguished by whether they are contributory or non-contributory. Contributory schemes are interventions which individuals and/or their employers have to directly pay or contribute to in order to access the programme. These are also often referred to as social insurance, and examples include work-retirement related pensions. Non-contributory schemes are mostly tax-financed programmes;individuals do not directly pay into or contribute to the programme. Examples include child or family benefits, disability benefits, social pensions and household-based social assistance (or poor relief).

We also distinguish tax-financed programmes by whether they are universal or targeted (means-tested). Universal schemes provide access to all those in their intended category irrespective of their levels of income, while targeted benefits would only be accessible to individuals with incomes below a certain threshold. For example, a child benefit programme which aims to benefit all children (children being the intended category) is classified as universal, but if only poor children are eligible, then this is termed as a means-tested programme (or poverty-targeted).

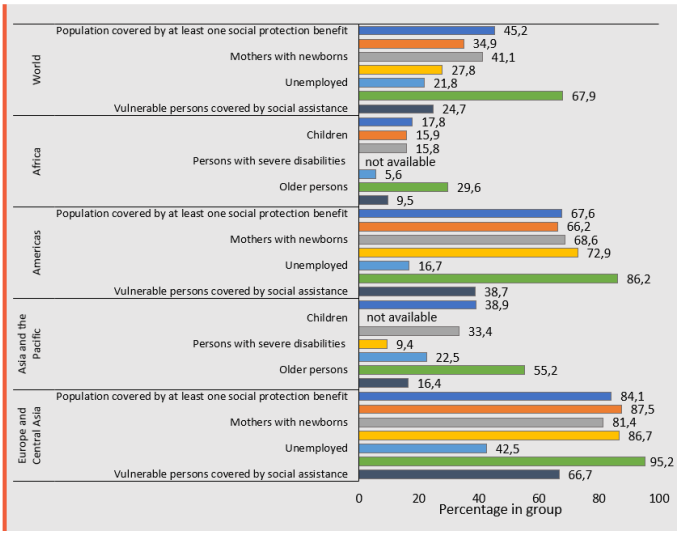
4 However, in recent years, there has been a convergence in what constitutes social protection, and even in the use of the term social protection. Terms such as “safety nets”, “social security”, “welfare”, “social assistance”, “social insurance” across different countries with small variations tend to all be some form of social protection.

Tax-financed programmes are also often distinguished by whether they are conditional or unconditional, especially poverty-targeted schemes. While they do not require individuals and families to directly contribute to the schemes, conditional programmes oblige families to fulfil certain behavioural requirements. This can be, for example, a requirement that children attend school and receive health vaccinations in order to access the benefits. These programmes are also known as conditional cash transfers. Unconditional programmes have no such requirements.

2.2 Current levels of social protection coverage and spending

The SDG Indicator 1.3.1 which tracks Target 1.3 is "[p]roportion of population covered by social protection systems and floors". The ILO's most recent flagship report – World Social Protection Report 2017-2019 – indicates that this is far from being achieved. In 2015, it was estimated that only 45 per cent of the global population was protected by at least one social protection benefit (ILO, 2017). However, as displayed in Figure 3, coverage across region varies significantly from 84 per cent in Europe and Central Asia to less than 20 per cent in Africa. Coverage also varies considerably by groups of people, from 68 per cent of older persons being covered to only 22 per cent of unemployed persons of working age having coverage. While some regions are closer to meeting Target 1.3, overall, the world remains a long way from achieving this goal. It is also the case that low-income countries are the ones struggling the most to meet Target 1.3, with many of those living at the bottom of the welfare spectrum and who are more vulnerable do not have access to social protection. If countries are to make social protection systems reach all people, clearly more investment in the sector is required.

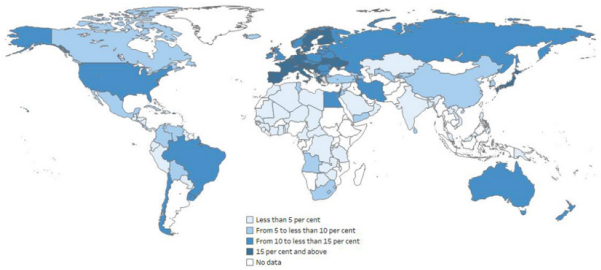
Figure 3: Social protection coverage (SDG indicator 1.3.1), 2015



Source: ILO (2017). Note: estimates have been weighted by country population. Coverage is expressed as a percentage of the total population in group and includes both contributory and non-contributory programmes. See ILO (2019) for more detailed notes.

Overall, there is considerable variation in levels of investment across countries and regions (Figure 4). As anticipated by coverage levels, Asian and African countries have the lowest levels of investment (ILO, 2017). Spending in social protection also remains low in a number of countries in the Americas. Generally, low- and middle-income countries are investing considerably less than high-income countries.

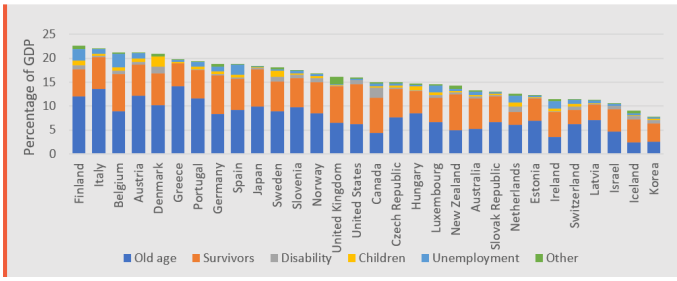
Figure 4: Public spending on social protection (as a percentage of GDP)



Source: ILO (2017). Note: estimates are from latest available year and exclude health-related expenditure.

Figure 5 provides the breakdown of social protection investment by programme among OECD countries and associates. European countries tend to have the highest levels of investments, with Italy and Finland having the two highest levels of investment, with both countries investing slightly more than 22 per cent of GDP. The average among OECD countries is 16 per cent. The bulk of spending is on old age pensions, with the average being 8 per cent and, in most countries, total public spending is more than 10 per cent.

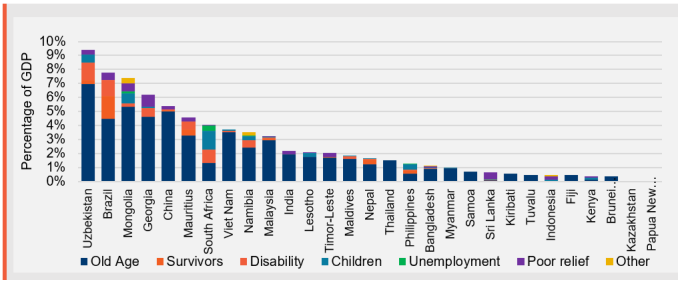
Figure 5: Level of investment in social protection in selected high–income countries (percentage of GDP), 2015



Source: OECD Social Expenditure Database, data extracted in Jan 2020 from OECD.Stat. Note: this is public spending only and excludes health, housing and active labour market programmes. For more information see www.oecd.org/social/expenditure.htm.

Figure 6, on the other hand, provides a breakdown of the levels of spending a selected number of low- and middle-income countries are making on non-contributory social protection programmes, by type of programme. Again, we find that there is considerable variation across countries. Only one country — Georgia — is spending more than 5 per cent of GDP; most are spending less than 2 per cent of GDP. Among the types of programmes, spending on social pensions is by far the most common among the countries. The figure also shows how distant many low- and middle-income countries are from spending levels observed in higher-income countries where social protection systems are more comprehensive. Although there is no information on public expenditure of contributory schemes in low- and middle-income countries, we expect these to be on average very low, since many of these countries have high levels of informality and often contributory schemes will only be available to civil servants.

Figure 6: Level of investment in non-contributory social protection programmes in selected low- and middle-income countries (percentage of GDP, latest year available)



Source: various. Note: Poor relief programmes are non-contributory poverty-targeted household programmes.

The Social Protection Floor Index developed by the Fredrich-Ebert-Stiftung indicates that for most countries in the short to medium term, not much is required to fill the financial gap to put in place national social protection floors. That is, the financial implications of ensuring all individuals have basic guarantees in terms of income security and health coverage as per ILO Recommendation 202 are something most low- and middle-income countries could afford sustainably. The index, however, only provides the bare minimum that a country would need to invest as a percentage of GDP on national social protection policies to close existing income and health gaps. According to estimates by Bierbaum, Cichon and Schildberg (2017), out of 150 countries, some 71 countries would require less than 2 per cent of GDP to close the social protection gap, which may be achievable in the short term, while another 45 countries would be able to close the gap in the medium term by investing 2 to 4 per cent of GDP. While the index provides a good and simple monetary tool of how financially attainable the social protection floors are for a number of countries, one of its limitations is that it assumes that households can be perfectly targeted. That is, by construction, the level of investment required in the index is estimated based on the assumption that only households below the poverty line or with inadequate health access should be reached. In reality, perfect targeting is not attainable nor desirable when accounting for the dynamics of life (Kidd and Athias, 2019).

Despite the affordability of existing social protection, many countries are clearly not investing sufficiently in national social protection systems. Often, the one argument used against investing further in social protection is that with increasingly competing budgets, governments simply do not have the fiscal

space. However, a recent study by Ortiz, Cummins and Karunanethy (2017), and supported by various UN agencies, brings to light the different ways in which fiscal space can be generated to accommodate higher levels of investment in social protection. The table below summarises eight different ways of expanding fiscal space to invest in social protection according to the authors.

These financing options are not new; a number of countries have already been applying them, and policy statements by different international bodies have also supported them (Ortiz, Cummins and Karunanethy, 2017). A limitation of these options is that they do not consider the growth in tax revenue that rises from economic growth. Real economic growth tends to improve tax revenue collection, which in turn may be used to finance social protection investments. In fact, the simulations below test whether social protection investments lead to both economic growth as well as tax revenue. However, overall, there is not a "one size fits all" solution to increasing fiscal space for social protection investments; every country is unique such that the different financial options have to be contextualised. In short, it is clear that it is not that expanding social protection is not impossible; there are a variety of options at governments' disposal to create fiscal space, and so what is mainly needed is the political will to implement them

Table 1: Options to generate fiscal space for investing in social protection

Options to expand fiscal space	Description
Reallocate spending	This can be done in different ways and includes eliminating inefficiencies of existing spending through reviews and assessment of ongoing budget allocations; replacing high-cost, low-impact investments with those with larger socio-economic impacts; eliminating spending inefficiencies; and/or tackling corruption.
Increase tax revenues	This is the default channel for generating fiscal space. But there are different ways which this can be achieved. It can be achieved by altering different types of tax rates or by strengthening the efficiency of tax collection methods and overall compliance. It should be noted, however, that some forms of taxation can be more progressive than others (e.g., wealth taxes or financial transaction taxes, which impact mainly wealthy individuals, versus value-added or consumption taxes, which are generally regressive).
Raise social security contributions (by employees and/or employers)	This generally entails increasing coverage and therefore collection of contributions.
Development assistance	Engage with donor governments or international organisations to increase development aid and international transfers.
Borrow or restructure existence debt	Active use of low-cost domestic and foreign borrowing options.
Tap into reserves	This comprises using fiscal savings and other funds (e.g., sovereign wealth funds, foreign exchange reserves) for domestic and regional development.
Adapt the macroeconomic framework	This usually would imply allowing for higher budget deficit paths and/or higher levels of inflation without jeopardising macroeconomic stability.
Fight illicit financial flows	The amount of resources that illegally escape developing countries each year is estimated to be ten times the total amount of aid received. Such illicit flows can include money laundering, bribery, tax evasion, trade mispricing and other financial crimes are potentially removing revenue needed for social protection from governments.

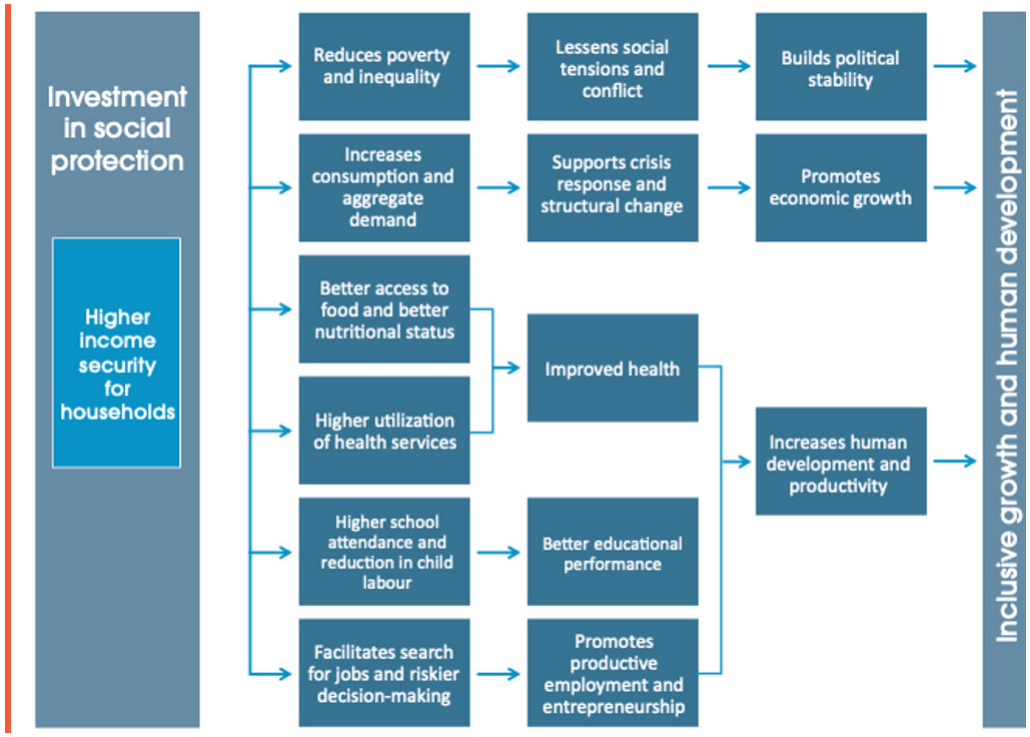
Source: adapted from Ortiz, Cummins and Karunanethy (2017)

3 Conceptual framework

The role that social protection plays in stimulating economic growth has been evidenced widely. For example, the effects of social protection on household consumption expenditure and labour market participation in the short and long term has been corroborated by a number of authors across multiple geographic regions (Hemerijck, 2016; Thome et al., 2016; Khondker, 2014; Zandi, 2008), and others have pointed to the role of the multiplier effects at the local community and national levels (Thome et al., 2016; Onaran, 2014; Taylor, 2012). Good examples include Onaran (2014), who found that a public investment of 1 per cent of GDP resulted in high growth levels of between 1.94 per cent and 3.88 per cent depending on the size of the multiplier effect; and Thome et al. (2016) cite creation of multipliers of 1.3 and 2.4 following social protection cash transfers in Africa.

Economic growth is not a core policy objective of social protection, but by providing income security across different lifecycle risks, social protection promotes economic growth through different channels, as depicted in Figure 7. Social protection schemes that are consistent, reliable and that are of a sufficient amount allow households to smooth consumption, meaning that they can invest more consistently in members' nutrition, education and health. The ability to smooth consumption also means that households can better mitigate shocks over time. This lessens the need for households or individuals to engage in negative coping strategies, such as withdrawing children from school to provide additional income, consuming less nutritious (usually expensive) foods or the selling of productive assets. Thus, an investment in social protection is an investment in a country's human capital development and productivity, which in turn improves the employability and productivity of a country's future workforce and investments in other key sectors. It may also allow more individuals to enter the labour force or take more innovative business risks instead of relying on less secure but immediately available subsistence activities. All of these lead to more inclusive economic growth.

Figure 7: The effects of social protection on economic growth



Source: Ortiz et al. (2019) based on ILO (2016)

In the same vein, social protection schemes can help prevent individuals from losing income due to shocks such as unemployment, the birth of a child or the death of an income earner. Unemployment benefits in particular allow individuals who are out of employment – and for whom it would have been costly to look for secure wage employment for longer – to look for such employment by minimising the loss of income. Similarly, maternity benefits provide guarantees that allow women to return to the labour market after having a child whilst also minimising the loss of household income associated with childbirth and the first few months of a child's life. In the case of the latter social protection scheme, we would also expect wider societal benefits of improved female employment and ultimately a reduction in gender income gaps as fewer women have to forgo their lifetime income as a result of not having to exit the labour market.

Other society-wide benefits result from the spillover effects in the form of better social cohesion. Better social unity can arise from people feeling more included as economically contributing members. This is especially the case for elderly members of the community who, without access to a minimum income, would otherwise rely on other family members who may also struggle with their own and dependent children's financial security (Tran et al., 2019). On a wider scale, social protection can also reduce the level of inequality nationally and thus further entrench a more stable society, particularly given that inequality serves to undermine social structures.

Through a demand stimulus, social protection can ultimately increase national economic activity through the multiplier effect, where the initial increase in household consumption expenditure results in an increase in demand for local goods and services which in turn results in increased local production and changes in the local labour markets. We would expect positive effects on the local community and markets. Such aggregate changes to household productivity ultimately have an effect on aggregate demand, especially when a country is able to engage in counter-cyclical spending during macro-level shocks, such as economic downturns, leading to to increased employment and thus government revenue through taxes.

However, the direction of the change at the community and macro levels will depend on a number of factors, including how responsive local labour and goods markets are to the increase in the household demand for goods and the increased supply of labour. For example, if the level of labour force participation increases, but there is no work available in the economy, then we would expect unemployment to increase.

The aggregation of the various individual and household level effects can serve to reduce income inequality at the macro level by alleviating opportunity inequality and allowing households to cope with adverse shocks better. A reduction in inequality can in turn lead to better social cohesion and stability, continued developments in human capital and ultimately economic growth.

Adopted from Mathers and Slater (2014), Table 2 expands on the conceptual framework outlined in Figure 7 and outlines the existing evidence on the direct and indirect impacts of social protection on growth. The table which features in their research synthesis has been extended to include the conceptual framework from a research synthesis conducted by the ODI (Bastagli et al., 2016). The level at which social protection has an effect is captured by the left-hand column with the types of effects, and its possible direction of effect (positive and/or negative signs) is captured in the middle and right-hand columns. Direct social protection programme impacts are those that are explicitly targeted by the programme, for example active labour market policies (Mathers and Slater, 2014; Onaran et al., 2019).[5] Equally, a programme aimed at increasing household consumption expenditure by providing cash transfers directly influences household consumption expenditure. Indirect social protection programme impacts are the spillover effects of the direct impacts. For example, if a social protection programme directly influences household consumption expenditure resulting in recipient households demanding more local goods or services, then we may see local production in goods increasing. Spillover effects can be both intentional and unintentional. An example of the latter would be inflation in the local community due to an increased demand in goods that is not met by an expanded supply of these goods, raising the prices of local goods for both programme recipients and non-recipients. Such indirect effects can reach the national level and thus influence economic growth. An example of this includes an increase in aggregate demand as a result of household consumption expenditure increasing, resulting in local demand increasing along with increased production benefitting non-recipients which is eventually felt at the national level. A detailed summary of the existing literature supporting Table 2 can be found in Annex 1.

5 There is conflicting evidence surrounding the impact of public works programmes which are discussed briefly in the following section

Table 2: Evidence on the direct and indirect impacts of social protection on growth by level of influence

	Direct impacts on growth		Indirect impacts on growth	
Individuals and households	Prevent loss of productive capital	+	Increase investment in human capital (expenditure on education, health, food, general household items)	+
	Accumulate productive assets	+		
	Increase innovation and risk taking in livelihoods of poor households	+		
	Female labour force participation	+		
	Impacts on labour force participation	+/-		
Local communities	Multiplier effects from increased local consumption and production	+	Social networks, cohesion and peer-effects	+
	Accumulation of productive community assets	+		
	Labour market impacts including inflation effects on local wages	+/-		
National	Cumulative increases in household productivity	+	Facilitate economic reforms	+
	Stimulate aggregate demand	+		
	Overall and gendered changes in aggregate labour force participation and sector of work	+/-	Enhance social cohesion and reduce inequalities (income, gender)	+
	Increase capital markets through pension funds	+		
	Effects of taxation on savings/ investment	-	Enhance human capital	+
	School enrolment, attendance and retention	+		
	Effects of government borrowing and inflation	-	Impacts on fertility rates	+/-

Source: Mathers and Slater (2014), drawing on Arjona et al. (2002); Grosh et al. (2008), Piachaud (2008); Alderman and Yemtsov (2012); Barrientos (2012) and Bastagli et al. (2016). Notes: (+) potential positive impact; (-) potential negative impact; (+/-) possible positive or negative impact.

4 Modelling approach

The methodological approach used to assess the economy-wide impacts of countries investing in social protection is based on a social accounting matrix (SAM) multiplier model and a computable general equilibrium (CGE) model. There are two stages in these approaches. In the first stage, the policy scenarios are defined, and the level of government transfers each household group receives is determined. In the second stage, the estimated expansion of social protection policies and their injection amounts are fed into the SAM model and the CGE model to assess the simulated economy-wide impacts of the proposed investment scenarios. The various methodological components and the insights they provide are summarised in the subsections below, as well as the data sources used and scenario setups.

4.1 Social accounting matrix

A social accounting matrix (SAM) is an efficient and, ultimately, simple way to record economic transactions. It is a square matrix in which each agent/account has both a row and a column. The expenditures/payments/out-goings for each account are recorded as column entries while the incomes/receipts/in-comings for each account are recorded as row entries. The SAM is a form of single-entry bookkeeping, where each entry is a transaction, i.e., each entry has both price and quantity dimensions, which identifies both the source and destination of the transaction. The prices for each and every entry in a row must be identical. Accordingly, the total expenditures by each account must be exactly equal to the total receipts for each account. Hence, the respective row and column sums for a SAM must equate. Moreover, in the context of an entire economy, a SAM will contain not only the information provided by the aggregate national accounts but also further details on the transactions between various groups of agents within the system.

The SAM brings together both macroeconomic data (such as national accounts) and microeconomic data (such as household surveys) and applies them within a consistent framework. It aims to provide as comprehensive a picture of the structure of the economy as possible. A SAM is a generalisation of the production relations and extends this information beyond the structure of production to include:

1. The distribution of value-added to institutions generated by production activities
2. Formation of household and institutional income
3. The pattern of consumption, savings and investment
4. Government revenue collection and associated expenditures and transactions
5. The role of the foreign sector in the formation of additional incomes for household and institutions

SAMs usually serve two basic purposes: a) as a comprehensive and consistent data system for descriptive analysis of the structure of the economy and b) as a basis for macroeconomic modelling. Figure 8 shows the basic structure of a SAM.

Figure 8: Basic structure of a social accounting matrix (SAM)

		Expenditure columns						
		Sectors (Activities and Commodities)	Factors	Households	Government	Investment	Rest of world	Total
Income rows	Sectors (Activities and Commodities)	Intermediate demand and Domestic supply		Consumption spending (C)	Recurrent spending (G)	Investment demand (I)	Export earnings (E)	Total demand
	Factors	Value-added						Total factor income
	Households		Factor payments to households		Social transfers		Foreign remittances	Total household income
	Government	Sales taxes and import tariffs		Direct taxes			Foreign grants and loans	Government income
	Savings			Private savings	Fiscal surplus		Current account balance	Total savings
	Rest of world	Import payments (M)						Foreign exchange outflow
	Total	Gross output and Total supply	Total factor spending	Total household spending	Government expenditure	Total investment spending	Foreign exchange inflow	

Source: authors' elaboration sourced from Breisinger et al. (2009)

The original SAM, for each country, has been modified to meet the requirements of the current study. The review of the structures of the SAM was completed

based on the last available national representative household surveys, containing information on household consumption. It was agreed that the current structure – especially household classification – is not suitable for simulating the scenarios. The adjustment focused on the activity, commodity and household accounts. Three steps were used for the reclassification of the original SAMs. These are discussed below.

Step 1. In the first step, production activity and commodity accounts by sectors were aggregated into three main activities and three commodity accounts (agriculture, industry, and services) following a mapping scheme. In this process, elements of all other accounts associated with activity and commodity (e.g., exports of goods and services) were aggregated according to the new three-tiered classification of activity and commodity.

Step 2. Household accounts were also significantly modified. In the original SAMs, household accounts considered a number of typologies of households based on working activity, geographical location, and education. Instead, in this study, household accounts were regrouped into five household groups based on wealth distribution as captured by microeconomic data.

Step 3. Information of all accounts of the SAMs were placed into their respective cells of the matrix to assess the balances of the accounts. Production, factor accounts, and household accounts were fully balanced.

4.2 Social accounting matrix multipliers

Economic linkages are determined by the structural characteristics of an economy – sectors' production technologies and the composition of households' consumption baskets. Multiplier effects, on the other hand, capture the effects of economic linkages over a period of time. For example, forward production linkages tell us that increasing agricultural production will stimulate production of processed foods by increasing the supply of inputs to this sector. This is the first-round linkage effect between agriculture and food processing. However, in the second round, the increase in processed food production will have additional forward production linkage effects to other sectors, such as to the restaurant sector, which uses processed foods as an intermediate input. Similarly, in the third round, the expansion of the restaurant sector will generate even more demand for other sectors. This process continues over many rounds as the effects of increasing agricultural production ripple throughout the economy, eventually becoming small enough that they effectively cease (Breisinger et al., 2009).

SAM multipliers measure the value of all production and consumption linkage effects. They capture direct and indirect effects in the first and all subsequent rounds of the circular income flow.[6] Multipliers translate initial changes in exogenous demand (for example, increased agricultural export demand) into total production and income changes of endogenous accounts.

Government interventions such as social protection programmes which aim to smooth household consumption are expected to have an impact on the economy through different channels, as highlighted in Figure 9:

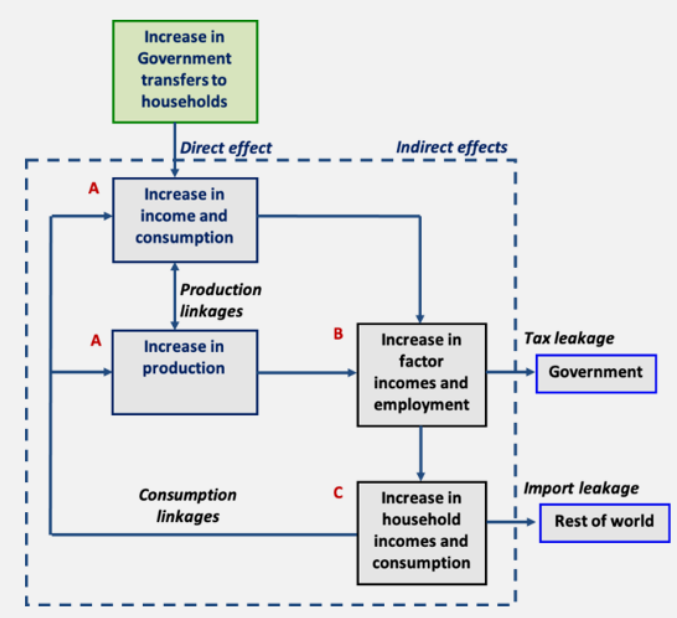
A. **Direct effects:** Government transfers to households would increase their income. Increase in income leads to higher consumption of goods and services of their choices. The income and consumption increase (or change) of households constitute direct effects of social protection intervention.

B. **Indirect effects:** Increase in household income may likely trigger additional demand for goods and services – requiring higher outputs and a greater employment of factors of production (labour and capital). The additional output and employment created in the supply chain (through backward linkages) are the indirect effects.

C. **Induced effects:** The additional workers employed by the expansion of the sectors supplying households (through indirect effects) now spend more – which generates additional production and employment in various other sectors throughout the economy, creating a multiplier of further demand. This spillover effect is called an induced effect.

6 For a more detailed information on the methodological steps, please see https://www.ifpri.org/publication/social-accounting-matrices and-multiplier-analysis

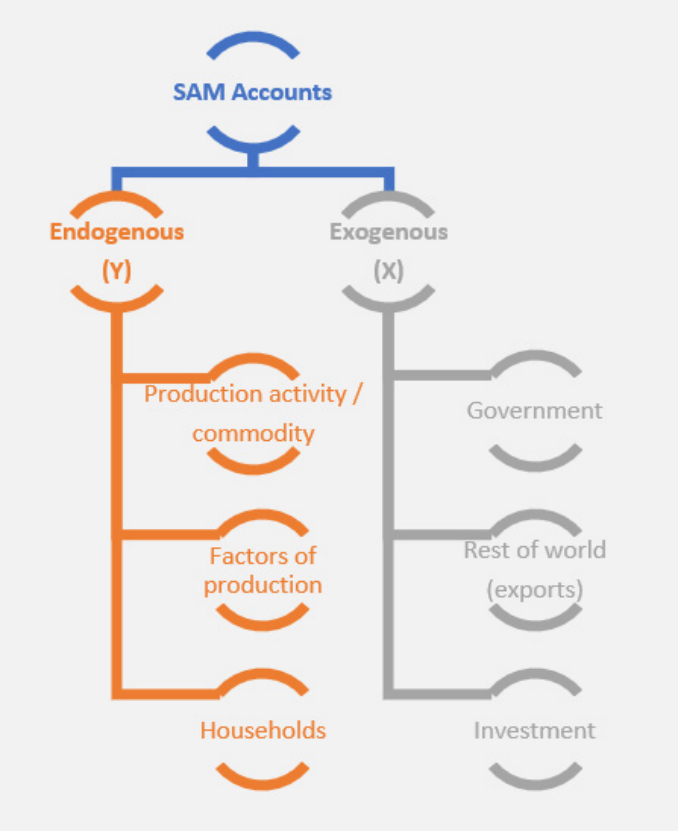
Figure 9: Circular Income Flow in the Multiplier Process



Source: authors' elaboration sourced from Breisinger et al. (2009)

The move from a SAM data framework to a SAM model (also known as multiplier framework) requires decomposing the SAM into 'exogenous' and 'endogenous' accounts (Figure 10). Generally, accounts intended to be used as policy instruments (for example, government expenditure including social protection, investment and exports) are made exogenous and accounts specified as objectives or targets must be made endogenous (for example, output, commodity demand, factor return, and household income or expenditure). For any given injection into the exogenous accounts of the SAM, influence is transmitted through the interdependent SAM system among the endogenous accounts. The interwoven nature of the system implies that the incomes of factors, households and production are all derived from exogenous injections into the economy via a multiplier process. The multiplier process is developed here on the assumption that when an endogenous income account receives an exogenous expenditure injection, it spends it in the same proportions as shown in the matrix of average propensity to consume (APC). The elements of the APC matrix are calculated by dividing each cell by the sum total of its corresponding column.

Figure 10: Endogenous and exogenous accounts of a SAM model



Source: authors' elaboration sourced from Breisinger et al. (2009)

Multiplier model and its assumption

Multiplier models make a number of limiting assumptions. In particular:

- Prices are fixed and any changes in demand lead to changes in physical output rather than prices.
- Factor resources are unlimited or unconstrained, so that any increase in demand is matched by increased supply.
- Input coefficients of producers and consumption patterns of households are unaffected by exogenous changes in demand (i.e., linkage effects are linear and there is no behavioral change).

4.3 Computable general equilibrium models

This study uses the static and dynamic Partnership for Economic Policy standard models, PEP 1-1 and PEP 1-t (Decaluwé et al., 2013a, 2013b)[7], as a basis to build a static and dynamic CGE model for each country subject of the analysis. The CGE models are based on the same standardised social accounting matrix (SAM) used for the SAM model. Several assumptions are built into the CGE models. Some critical assumptions on the production side include constant returns to scale and the perfect competition for firms as price takers. The model uses a nested production structure. At the top level, value added and total intermediate consumption is combined in fixed proportions following a Leontief production function. At the second level, value added is combined from labour and capital following a constant elasticity of substitution (CES) specification. In the model, the labour account is unique, and households are disaggregated by income quintiles. There are four institutional sectors (households, firms, government, and the rest of the world). The model distinguishes between three income sources: labour income (salaries and wages), capital income and transfers income. On the consumption side, households use their income for taxes, transfers to other institutions, consumption, and saving; their behaviour is modelled as a Linear Expenditure System (LES) and subject to its budget constraint. Following Tiberti et al. (2018), we allow for wage rigidities in the form of a "wage curve" instead of assuming flexible wages as it is done in the standard PEP model. The "wage curve" assumes an equilibrium wage rate compatible with the unemployment rate and describes a negative relation between wage rates and unemployment rates (Blanchflower and Oswald,1995). Introducing wage rigidities into the model allows us to take into account the outcome from variations in national unemployment rates. As in Tiberti et al. (2018), we use the econometrically estimated wage curve for South Africa (Kingdon and Knight, 2006; Blanchflower and Oswald, 1995), which is equal to -0.1, meaning that a 10 per cent increase in the unemployment rate leads to a 1 per cent decrease in wages. In terms of closure rules, we assume that the nominal exchange rate is the numeraire. Labour is mobile across sectors, whereas capital is sector specific. Finally, the current account is fixed. It means that the model excludes the possibility for a country to borrow from the rest of the world, imposing the rest of the world's savings as fixed. This further implies that aggregate domestic investments are restricted by aggregate domestic savings. World prices are fixed, following the assumption that the analysed countries are small. We consider government spending and tax rates as exogenous. This implies that government savings can vary in response to variations in economic activity.

The dynamic version of the CGE models is recursive, which means that the behavioural assumptions do not involve intertemporal optimisation (as opposed to intertemporal dynamic models). In the dynamic version of the CGE model, each period is solved as a static equilibrium, subject to the variables inherited from the preceding period. The dynamic model assumes that the population grows at a constant rate. Labour supply is a variable that is assumed to grow at the same rate as the population index popt, as a result of population growth, or a shift in the participation rate, or a combination of both (labour force participation is not represented in the static version of the CGE model). An economy is said to follow a balanced growth path if all quantities grow at a constant rate while relative prices remain constant. The reason for assuming that constants and exogenous variables grow at the same rate as labour supply is to make it possible for the model to simulate a balanced growth path. Several variables grow at the population growth rate: the current account balance, minimum consumption of commodities in the LES demand equations, current government expenditures, public investment by category and by public sector industry, and, finally, changes in inventories. The assumption of a balanced growth path is useful to simulate the "business-as-usual" scenario (Decaluwé et al., 2013b).

The results for both models are presented across eight different outcomes. Table 3 outlines the outcomes and their definitions.

7 Available at: https://www.pep-net.org/pep-standard-cge-models

Table 3: Definition of outcomes used

Outcome	Definition
GDP	The GDP is considered at factor prices as the sum of the value-added by the economy's production factors in the SAM model. GDP is calculated at market prices in the CGE model.
Labour income	Labour income is evaluated as the returns to the labour factor of production. In the SAM model; wages are assumed to be fixed. This assumption is justified by the static nature of the methodological approach.
Capital income	Capital income is defined as the return to the investments. As in the labour income case, changes in the total return to the investments depend on the institutions' sectorial investment behaviour after the policy shocks. In turn, the institutions' behaviour is static, and it is defined in the social accounting matrices.
Employment	Employment is defined as the number of workers. When using the SAM model, the indicator is extrapolated by analysing the correlation between number of workers and value-added historical trajectories. The relationship between value-added and the number of workers is defined through regression analysis.
Household income	The household's income builds on the returns to production factors (capital and labour payments), capital from the rest of the world (remittances), and social transfers from the government
Poverty	The poverty indicator is calculated as the percentage of the population having a consumption per capita below the national poverty line in the SAM's reference period.
Inequality	Inequality among households is measured with the Gini Index on the household's income. The higher the Gini Index value, the larger the inequality in terms of income between households in the same country.
Tax revenues	Tax revenues are measured as the sum of direct, indirect, and import duties the economic sectors and households pay to the government.

4.4 Scenarios

The simulation scenarios seek to reform existing national non-contributory cash programmes in each country. The scenarios do not look into the merits of how existing programmes have been designed. The aim is to understand the macroeconomic outcomes of increasing the level of investments of donor-funded programmes. Because countries have different systems and levels of investment in place, the proposed reforms will increase investment levels by 1 and 2 per cent of GDP (Scenarios 1 and 2) and by the income gap calculated for the 2015 SPF Index (Scenario 3).[8] Panel B of Table 4 shows the investment levels required under Scenario 3. The distribution of the total investment level by household quintile will follow a uniform distribution (or universal distribution of transfers), where households in the lower quintile receive the same amount as households in the highest quintile. The reforms can be interpreted as an expansion of existing programmes both vertically (transfer values) and horizontally (coverage). The results on main outcomes of an alternative progressive distribution – whereby households in the lower quintile receive significantly more than households in the top quintile – are shown Annex 3.

Table 4: Simulation scenarios

Panel A: Scenario investment levels	
Scenario 1	1 per cent of GDP
Scenario 2	2 per cent of GDP
Scenario 3	Country income gap as percentage of GDP (2015 SPF index)
Panel B: Country income gap (percentage of GDP) used in Scenario 3	
Bangladesh	0.6
Colombia	1.0
Costa Rica	1.2
Georgia	0.4
Ghana	1.4
India	0.3
Rwanda	7.8
Serbia	0.2

8 The income gap is measured against the relative poverty line of 50 per cent of median income.

4.5 Data sources

As described in the previous section, the simulations in this report are based on social accounting matrices. The SAMs used are the latest available for each country. With the exception of Serbia, which was developed specifically for this research using available use and supply tables based on national accounts, all SAMs have been published. Table 5 lists the source and reference year of the SAMs used for each country.

Table 5: Sources and reference year of social accounting matrices

Country	Source	Ref. year
Bangladesh	Government of Bangladesh (GED, 2019)	2017
Colombia	Colombia Statistical Office (DANE, 2020)	2017
Costa Rica	Central Bank of Costa Rica (Cicowiez, Sánchez and Muñoz, 2015)	2012
Georgia	Yerushalmi, Labadze and Galdava (2015)	2013
Ghana	Ghana Statistical Services, Institute of Statistical, Social and Economic Research (University of Ghana) and International Food Policy Research Institute (GSS, ISSER and IFPRI, 2017)	2015
India	Ministry of Environment and Forests, Government of India (Deb Pal, Pohit, and Roy, 2012)	2005
Rwanda	International Food Policy Research Institute (Pradesha and Diao, 2014)	2011
Serbia	Authors' elaboration based on supply and use tables and national account estimates from The Statistical Office of the Republic of Serbia (SORS)	2018

To modify the SAMs' household accounts to include household groups by wealth quintiles, a mapping of household expenditure and income by different accounts in the SAM was required. This mapping was produced by analysing microdata from national household surveys or produced reports from national household surveys. The following table indicates which household surveys were considered for each country (Table 6). Finally, the analysis also used data on welfare distribution and on national poverty rates with national poverty lines from the World Bank.

Table 6: Sources of household surveys for each country

Country	Household survey
Bangladesh	Bangladesh Household Income and Expenditure Survey (HIES) 2016
Colombia	Encuesta Nacional de Presupuestos de los Hogares (ENPH) 2016/17
Costa Rica	Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH) 2013
Georgia	Not required. The SAM already included household groups by quintiles
Ghana	Ghana Living Standards Survey VII (2017)
India	India Human Development Survey (IHDS I) 2005
Rwanda	Rwanda Integrated Household Living Conditions Survey (EICV III) 2011
Serbia	Serbia Household Budget Survey (2018)

5 Results and discussion

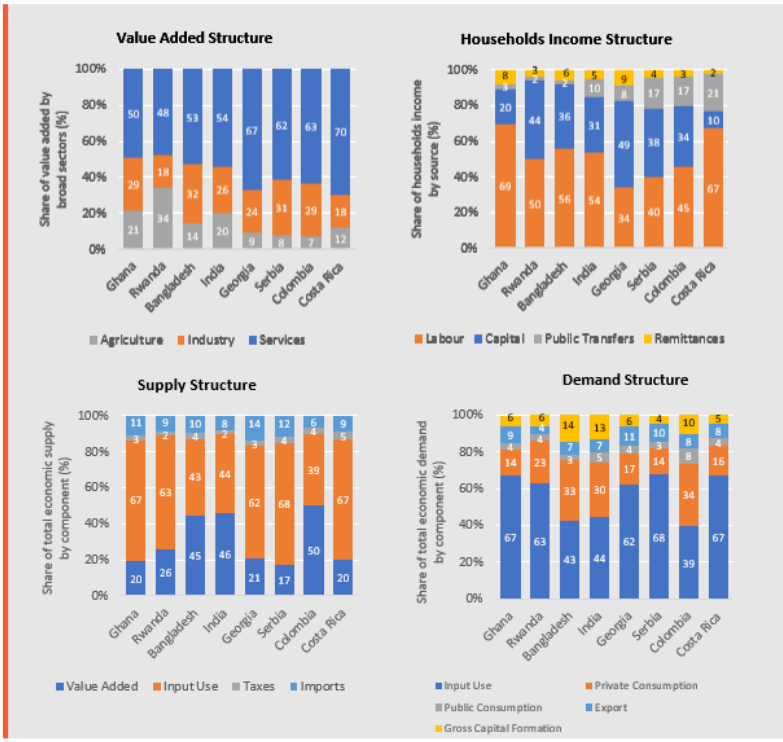
This section presents and discusses the SAM and CGE modelling simulation results on increasing social protection investments by one per cent of GDP in the selected eight countries (Scenario 1), with the universal distribution of the total investment. The outcomes under the second and third scenarios are presented in Annex 2. The results under Scenarios 2 and 3 show a similar trend as the results under the Scenario 1, with magnitudes roughly proportional to the differences in the transfers.

Cash transfer policies generate an increase in income and consumption that, in turn, have positive effects on the macroeconomy and governments' fiscal space. At the same time, the simulated policies have a positive impact on the reduction of the income inequality and poverty rates. On average, a 1 per cent increase in social protection investments produces a multiplier of 1.1 per cent increase in absolute GDP, a 7 per cent reduction of the number of people living under the national poverty line, a 1 per cent reduction in income inequality, a 1.8 per cent increase in government tax revenues, and a 0.6 per cent increase in employment (number of workers). The 2 per cent increase in cash transfers has a roughly linear multiplier effect in the change of the leading indicators. Finally, results under the third scenario (increase investment levels by the income gap calculated for the latest SPF Index), presented in Annex 3, show the average multiplier effect on GDP equals 2.4 per cent, leading to the falling of the poverty headcount of 11 per cent, the decrease of the income inequality of 2 per cent, a 3.6 per cent increase in the tax revenues, and a 1.4 per cent increase in employment.

The considered approach makes the impacts of the simulated policies strictly associated with the structure of the economies, which defines the multiplier effects of an increased social protection investment. The effects of the social protection investment are expected to be larger in those countries where the domestic economy is characterised by synergic domestic industries and where the demand is driven by private consumption. Typically, such an economy is characterised by little dependency on the supply and demand from trade. Further, a larger impact of the increase of the social protection investment is expected in those economies where, under the status quo, a small share of the household's income is due to public transfers.

Figure 11 shows the structure of the value added by the three broad economic sectors, the composition of the household's income, and the structure of the demand and supply in the selected countries. The total value added represents more than 45 per cent of the total supply (or GDP) in Bangladesh, Colombia, and India, while the total value of input use as a share of GDP is just under 45 per cent, which suggests a moderate integration to the domestic economy in the production process. The other selected economies are characterised by a stronger domestic integration: the input use represents 67 per cent of the value added in Costa Rica and Ghana, 63 and 62 per cent in Rwanda and Georgia, respectively, and 58 per cent in Serbia. Taxes represent a higher share of GDP in Costa Rica and Colombia (4 per cent) compared to the other countries (3 per cent in Bangladesh, Georgia and Serbia, 2 per cent in Ghana, 1 per cent in Rwanda). Services is the most important broad economic sector in all countries, composing roughly 70 per cent of total value added in Costa Rica and Georgia, 60 per cent in Colombia and Serbia, 54 per cent and 53 per cent in India and Bangladesh, and 50 per cent and 48 per cent in Ghana and Rwanda. The agricultural sector represents one third of the total value added in Rwanda, roughly 20 per cent in Ghana and India, 14 per cent in Bangladesh, roughly 10 per cent in Costa Rica and Georgia, and 7 per cent and 4 per cent in Colombia and Serbia, respectively. Total demand is composed of intermediate use and final demand. Intermediate demand represents the largest part of the total demand, representing 67 per cent of the total demand in Costa Rica and Ghana, 63 per cent in Rwanda, 62 per cent in Georgia, 58 per cent in Serbia, 44 and 43 per cent in India and Bangladesh, respectively, and 39 per cent in Colombia. As expected, private consumption is the single largest component among all the final use categories. Private consumption represents a large part of the total demand, especially in Colombia and Bangladesh (34 and 33 per cent, respectively). Finally, gross capital formation represents 14 and 13 per cent of total demand in Bangladesh and India, 10 per cent in Colombia, 5 per cent in Costa Rica and Serbia, and 6 per cent in Georgia, Ghana, and Rwanda.

Figure 11: Structure of the domestic economy in selected countries



Source: authors' elaboration – Social Accounting Matrices

In this section, outcomes of 1 per cent GDP increase of social protection investments are grouped into macroeconomic outcomes, poverty and inequality, and tax revenues. The results from the SAM models are referred in the graphs as 'multiplier policy effect', while the results from the general equilibrium models are referred as 'static policy effect'.

5.1 Macroeconomic outcomes

Outcomes shown in this section focus on the macroeconomic effects of 1 per cent GDP investment in social protection transfers (the first policy scenario) on the whole economy in terms of GDP growth, employment, and consumption. The interrelationship between the macroeconomic indicators is explained in the methodological section.

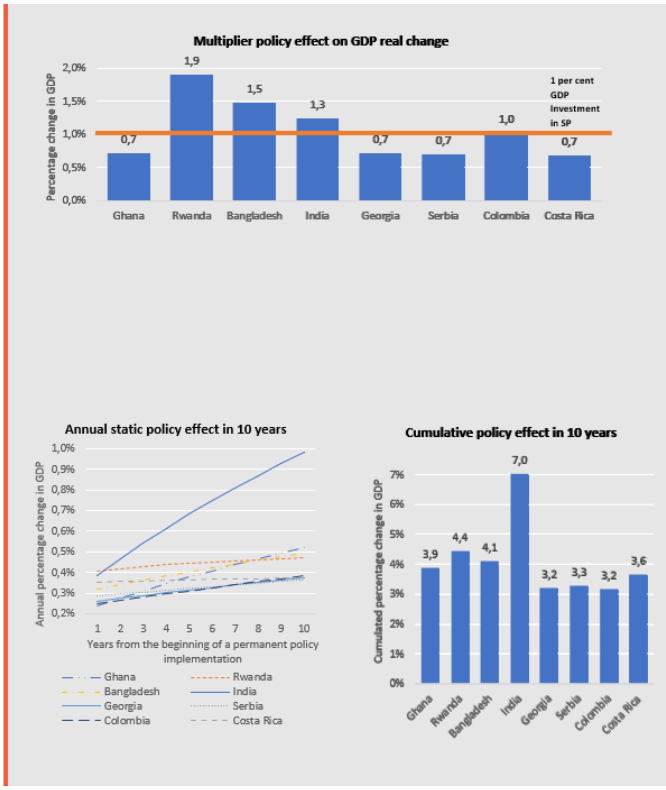
5.1.1 Gross domestic product

The absolute value of gross domestic product (GDP) increases across all eight countries as an effect of the increase of social protection investments. The GDP multiplier, shown in the top graph of Figure 12, measures the total change of value-added or factor incomes caused by direct and indirect effects of the investment in social protection. The economies are positively affected by the policies under the three scenarios, with the maximum GDP increase under the second scenario (Annex 3). The GDP multiplier is robust in Rwanda, Bangladesh, and India. These three countries are characterised by a large part of demand driven by domestic demand driven by private consumption and a low share of supply driven by imports. The size of the GDP multiplier critically depends on the share of imported goods and services in households' consumption. If households consume domestically produced goods, then the increase of household income as the effect of the new policy will benefit domestic producers, and the circular flow of income will lead to indirect linkage effects. On the other hand, if households demand imported goods, then foreign producers who benefit from the policy and the indirect linkage effects will be smaller. Import demand represents one of the leakages from the circular flow of income.

The graphs on the bottom of Figure 12 show the effect of a permanent implementation of the policy under the first scenario (1 per cent GDP increase in social protection cash transfers). The policy produces an iterated multiplier effect on the economies. The bottom left graph shows the dynamic of the absolute GDP in real terms between year 0 (baseline GDP without the investments in Social Protection) and year 10 (GDP at year 10 under a permanent investment of 1 per cent of the GDP at the time of the baseline, with the cash transfer adjusted for the inflation and GDP growth). In contrast, the graph on the bottom right shows the policy's cumulated effect after ten years of permanent policy implementation.

In India, an important part of household income is government transfers (10 percent of the total households' income), which explains why the transfer increase does not provoke an immediate shock. Nevertheless, India shows an exceptional dynamic in the GDP increase due to the permanent simulated policy. The Indian economy structure allows the creation of a virtuous economic cycle due to the rise of the transfer. Such a dynamic is explained by the fact that the Indian domestic economy is very synergic, meaning that the consumption increase provokes the increase in domestic production, making labour income grow, and triggering domestic consumption expansion that, in turn, reinforces the virtuous cycle.

Figure 12: Simulated impact on real GDP as an effect of 1 per cent GDP investment in social protection policies

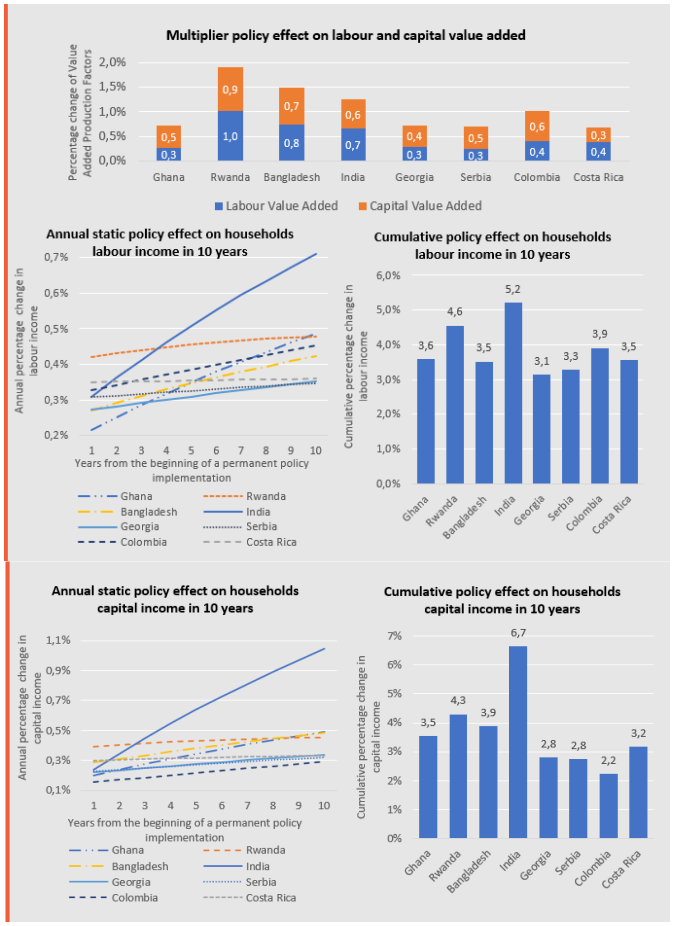


Source: authors' elaboration – PEP & CGE Dynamic Models

5.1.2 Production Factors Value Added and Income

The output multiplier combines all direct and indirect (consumption and production) effects across multiple linkage rounds and reports the final increase in gross output of all production activities. The effects of the social protection investment on labour income are strictly related to the output multiplier by each sector, and its value-added formation structure (whether it is capital or labour intensive). As in the case of the GDP, the output multiplier effect is higher in those countries where the consumption triggers domestic production and where the sectorial production is strongly interrelated with other domestic sectors (Figure 13). The graph on the top part of the figure below shows the multiplier effect on the value-added components (labour and capital). The multiplier effect on value added is driven by the labour value added in those countries with a higher multiplier effect (Rwanda, Bangladesh, India, Colombia). Figure 13 shows the dynamic of the households' labour and capital income. Apart from the evidence of a virtuous cycle for India, the dynamic of Rwanda and Ghana is interesting for two different reasons. In Rwanda, the increase in the social protection investments creates an immediate positive shock in the economy and a higher multiplier effect in terms of both economic growth and households labour and capital income. On the contrary, in Ghana the immediate effect is small, but it shows a rapid increase in the labour and capital income.

Figure 13: Simulated impacts on Production Factors Value Added and Income as an effect of 1 per cent GDP investment in social protection policies

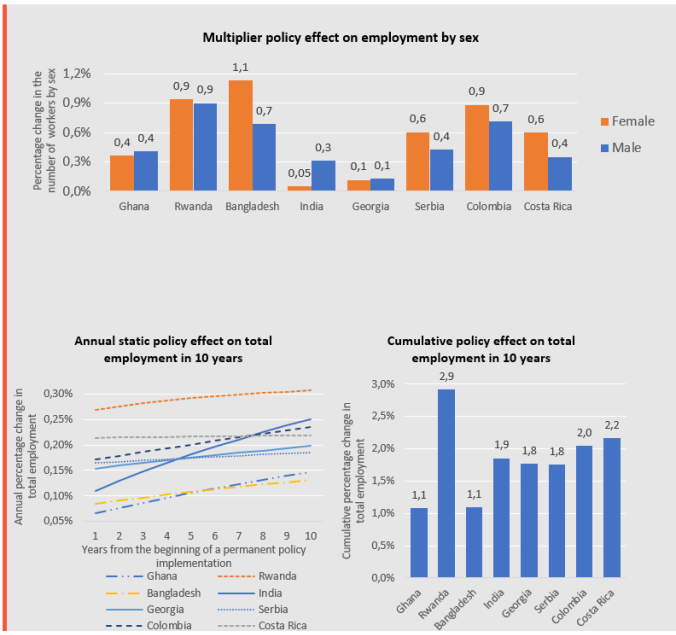


Source: authors' elaboration – SAM Models & PEP CGE Dynamic Models

5.1.3 Employment

The increase in the number of workers is higher for females than for males as an effect of the simulated increase of social protection investments (see Figure 14). The employment trajectories are mainly explained by the different demographic dynamics and the rapidity in the structural change. The labour supply is strictly related to the composition of the value added in each country. In Rwanda, India, and Costa Rica the value added is composed principally by the labour factor. Additionally, in the long term, those countries where labour-intensive sectors are more affected by the increase in domestic demand will benefit the most in terms of employment increase (Rwanda, India, Colombia, Costa Rica).

Figure 14: Simulated impacts on number of workers as an effect of 1 per cent GDP investment in social protection policies



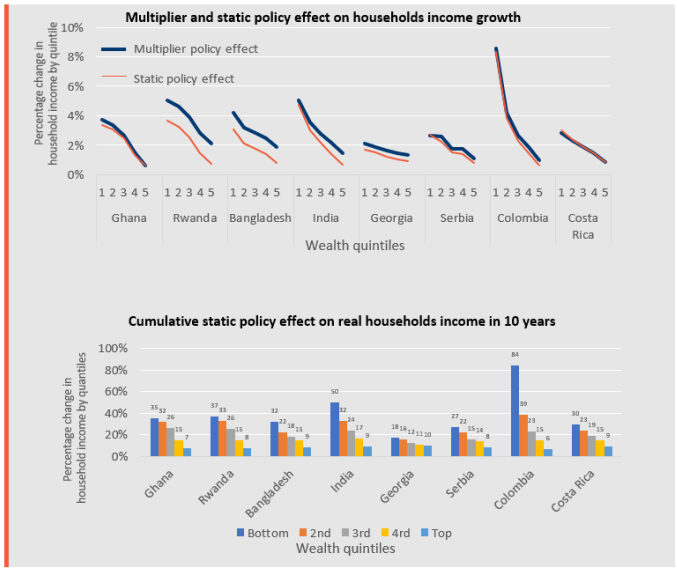
Source: authors' elaboration – SAM Models

5.1.4 Household income distribution

In the SAM and CGE models, the production factors incomes are paid to aggregate households' accounts. Also, social protection cash transfers are part of the households' incomes. This analysis considers different groups of households based on the quintiles of income distribution. This information allows us to assess distributional impacts from policies.

The effect of the transfer increases is evident when analysing the changes in income by households' quintiles. Those households in the lowest part of the wealth distribution benefit equally compared to the ones at the top of the distribution given the universality of the investments applied. Nevertheless, the results show how in all countries changes on household income are related to the distribution of factor incomes in the economy (see Figure 15). Low-income households rely more on labour earnings than higher-income households. And the policies that increase production in labour-intensive sectors benefit poorer households more compared to the other households. Figure 15 shows the impact of increasing social protection transfers on households' income. As expected, across all selected countries, the impact is more meaningful for households in the bottom part of the wealth distribution. Furthermore, the impact on household income among the poorest households is stronger in countries where there is high income inequality. The higher the inequality in a country is, the higher is the impact on household income in the lowest quintile.[9]

Figure 15: Simulated impacts on household income by quintiles as an effect of 1 per cent GDP investment in social protection policies



Source: authors' elaboration – SAM Models & PEP CGE Dynamic Models

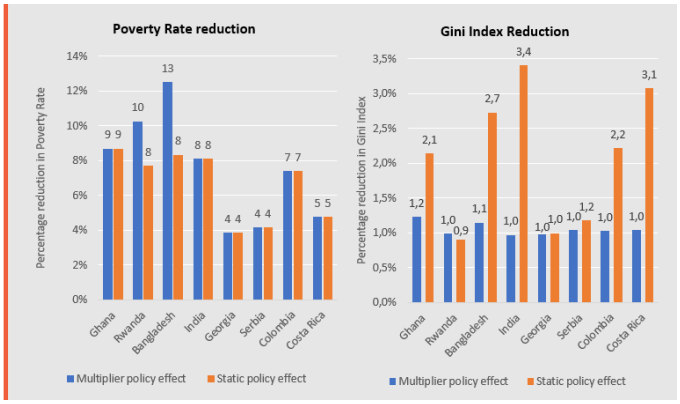
5.2 Poverty and inequality

The percentage of population living under the national poverty line decreases in each country as an effect of the increase social protection investment. The poverty indicator is calculated on household consumption per capita by using the national poverty line. With the increase of 1 per cent GDP in social protection investment, poverty reduces between 4 and 13 per cent across the 8 countries (Figure 16).

The inequality indicator (Gini Index) is calculated on household income by quintile for each country. The Gini Index indicates a reduction in inequality as social transfers increases. The decline in inequality is strictly connected to the rise of income in the lowest quintiles under the simulated policies. As shown in Figure 16, under the first scenario, India is the country where inequality decreases the most (3.4 per cent when considering the static policy effect), while Georgia and Rwanda are the economies with the lowest decrease in inequality (roughly one per cent considering both the multiplier effect and static policy effect).

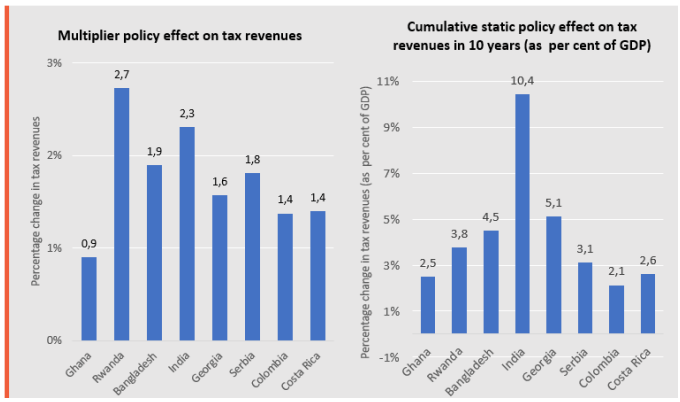
9 Gini Index, calculated on SAMs accounts, and based on households' quintiles under the baseline, equals the following: 45 per cent in Colombia, 38 per cent in Rwanda, 37 per cent in India, 36 per cent in Ghana, 27 per cent in Costa Rica, 26 per cent in Bangladesh, 24 per cent in Serbia, 13 per cent in Georgia.

Figure 16: Simulated impacts on poverty and inequality as an effect of 1 per cent GDP investment in social protection policies



Source: authors' elaboration – SAM Models & PEP CGE Dynamic Models

Figure 17: Simulated impacts on tax revenues as an effect of 1 per cent GDP investment in social protection policies



Source: authors' elaboration – SAM Models

5.3 Tax revenues

Tax revenues represent an essential part of the total government revenues, together with the transfer payments from the rest of the world in some countries (i.e., foreign grants and development assistance). These payments are used for recurrent consumption spending and transfers to households. Enlarging the difference between total revenues and expenditure means creating a fiscal surplus (or reducing the deficit) along with a much greater flexibility in terms policy planning.

The significant increase in tax revenues shows how the simulated policies can trigger a virtuous cycle in which poverty reduction is associated to fiscal and macroeconomic sustainability (see Figure 17).

6 Conclusion

In this report, a social accounting matrices model and a general equilibrium model, together with microeconomic analysis, were used to assess the macroeconomic and redistributive impacts of increasing investments in social protection under three different investment level scenarios: increase investment levels by 1 and 2 per cent of GDP (Scenarios 1 and 2), and by the income gap calculated for the 2015 SPF Index (Scenario 3).

The use of the SAM and the microeconomic analysis is the appropriate tool, as traditional micro econometric approaches do not take into account macroeconomic feedbacks that new social protection programmes can generate. At the same time, by using a pure macroeconomic modelling, we cannot evaluate the redistributive impacts of such policies. By combining these two methodologies, we can capture the full impacts of the simulated policies.

Our results show that the simulated policy scenarios positively impact GDP and decrease poverty. More specifically, at the macro level, we observe a significant increase in GDP in poorer economies, while at the micro level, we find that households' income increases substantially in poorer households. Moreover, we observe growth in job numbers in the economies where the labour force increases, leading to a higher increase in employment of female workers under the three scenarios. Depending on the magnitude of the macroeconomic changes, the effects on poverty are generally substantial.

The scaling up of social protection programmes generates a virtuous cycle in the economy, with the main transmission channel coming from households' expenditure. The simulated policies lead to an expansion in households' income and consumption for each commodity. Especially in economies with strong ties between consumption and domestic production, the increase in consumption generates a multiplier effect on domestic production that, in turn, generates income and an increase in tax revenues for the government.

The positive effect of the simulated policies is evident in all the eight analysed countries, and even more importantly in the poorest economies, such as Rwanda, Ghana, Bangladesh, and India. Results presented here are in line with several studies showing how social protection investment reduces inequality and poverty both in the short and long term (Mathers and Slater, 2014; OECD, 2019). The synergy between social protection and poverty and inequality has been cited widely, particularly regarding universal lifecycle schemes (Niehues, 2010). A reduction in inequality can also have other positive influences on macro-level effects, such as better social cohesion, more stable communities, and economic growth. Overall, the simulated policies positively affect the poorest part of the population in the poorest countries. Rwanda, the poorest country among the selected economies, is also the country with the highest multiplier effect as a result of the simulated policies.

While the methodological approach relies on representing the economies with social accounting matrices, which do not differentiate the labour market and the household composition by gender, we estimate the change in number of workers by gender, using information on the value-added change and simulating its historical relationship with the employment (number of workers). The results show that in most analysed countries, the number of female workers increases more than male workers. Moreover, we want to underline how specific social protection schemes directly sustain women's economic activities, preventing individuals from losing income due to suddenly unemployment, the birth of a child or the death of an income earner. By minimising the loss of income, unemployment benefits in particular allow individuals that are out of employment – and to whom it would have been costly to look for secure wage employment for longer – to look for such employment. Similarly, maternity benefits provide guarantees that allow women to return to the labour market whilst also minimising the loss of household income associated to childbirth, particularly during the first few months of a child's life, when the mother is likely to be the unpaid primary carer. In the case of the latter social protection scheme, we would also expect wider societal benefits of improved female

employment and ultimately a reduction in the gender income gap as fewer women have to forgo their lifetime income as a result of not having to exit the labour market.

Finally, it has to be underlined that the results show the effect of "what-if" scenarios, with some assumptions, by considering donor-funded programmes. Further research is needed to evaluate such programmes' impacts when funded through national taxation or borrowing. The results of the SAM model identify the multiplier effect of the simulated policy. The multiplier typically may overestimate the effect of an exogenous shocks. To better investigate the effect of the simulated policies, the SAM model analyses have been completed with a static and a dynamic general equilibrium model. When comparing the SAM model and static CGE results, the magnitude of the effects changes, since the two models imply different assumptions (constrained economy's factor resources). Nevertheless, the direction of the policies' effects stays the same. In addition, a dynamic extension of the CGE model allows appreciating the adjustments in the economy due to permanent investments in social protection policies over ten years.

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