Social protection is expanding in Africa, but coverage is too low to significantly reduce inequality

WHAT ARE THE ECONOMIC, SOCIAL AND POLITICAL FACTORS DRIVING SOCIAL PROTECTION IN AFRICA?

1. **A high GDP growth rate does not** necessarily **translate** into **increased social protection** spending

2. **Democratically governed countries** are **more likely** to **invest a larger share of their GDP** in **public social expenditure**

3. **Middle Income Countries** tend to **spend more** than **Low Income Countries** on **social protection**

4. **Non-resource dependent** countries **spend more** on **social protection** than **resource-dependent** countries

SOCIAL PROTECTION INDEX FOR AFRICA

South Africa	0.80
Mauritius	0.69
Botswana	0.69
Liberia	0.63
Tanzania	0.60
Lesotho	0.53
Swaziland	0.52
Mauritania	0.50
Ghana	0.49
Uganda	0.48
Gabon	0.47
Zambia	0.35
Namibia	0.30
Burkina Faso	0.29
Cameroon	0.27
Cabo Verde	0.26
Sierra Leone	0.25
Malawi	0.23
Congo, Rep.of	0.23
Senegal	0.21
Benin	0.21
Kenya	0.21
Côte d'Ivoire	0.19
Togo	0.18
Mozambique	0.17
Rwanda	0.16
Ethiopia	0.16
Comoros	0.15
Mali	0.12
Niger	0.08
Nigeria	0.07
Congo, Dem. Rep.	0.07
Gambia, The	0.07
Madagascar	0.04

WHAT DRIVES THE INEQUALITY-REDUCING POWER OF SOCIAL PROTECTION IN AFRICA?

1. **Better targeting** of **social protection** to the **poorest quintiles**

2. **Volume transfer** to the **targeted population**

3. **An increase** in the **value of transfer to the poorest quintiles** rather than **improvement in coverage rates**

4. A combined **increase** in the **coverage of the poorest quintile** and an **increase** in the **unit value of transfers** lead to a **significant reduction** in **inequality**

8 Social Protection and Inequality in Africa: Exploring the interactions

HAROON BHORAT, AALIA CASSIM, ARABO EWINYU AND FRANÇOIS STEENKAMP[1]

8.1 Introduction

The World Bank (2015) reports that, in 2014, almost 1.9 billion individuals in the developing world – roughly one-third of the population in these countries – benefitted from social protection programmes. This is disproportionately driven by the size of the programmes in large countries such as China and India. The World Bank estimates that nearly one-third of individuals in the developing world receive benefits from a social protection programme. This compares favourably with the estimated average coverage rate of 25.0 per cent in SSA. The latter suggests that approximately 250 million individuals in SSA are beneficiaries of some form of social protection programme, almost equivalent to the number of beneficiaries of India's National Rural Employment Guarantee Act (NREGA).

Given its success in a number of emerging markets and some African countries, social protection is viewed as a tool to improve the lives of those at the lower end of the income distribution.[2] In post-independent Africa, a number of factors influenced the spread of social protection. First, internal wars and widespread famine had generated large numbers of refugees and internally displaced individuals. Second, the spread of epidemics such as HIV/AIDS and malaria resulted in a sharp rise in household vulnerability. Finally, social protection was promoted as a response to the adverse effects of structural adjustment programmes (World Bank, 2001). Thus, in the 1980s, social protection developed through state intervention as a long-term strategy to promote individual and household welfare. Secular organisations and, often, non-governmental organisations (NGOs) gradually took over the delivery of social protection by missionaries. Some countries advocated this as a right, rather than a reactive form of relief (World Bank, 2001). Combined with a renewed emphasis in the period after structural adjustment and the rise in growth levels of a number of African economies, social protection has taken more of a central role in domestic policymaking in Africa.

[1] The authors would like to acknowledge the research assistance provided by Sibahle Magadla and Kavisha Pillay.

[2] Social protection consists of policies and programmes designed to reduce poverty and vulnerability by diminishing individual and household exposure to risks and enhancing their capacity to manage negative economic and social shocks, such as unemployment, exclusion, sickness, disability and old age. Social protection can be broken down into four categories: social insurance, social assistance, labour market programmes and private transfers.

However, for the bulk of SSA countries, provision of social protection remains expensive, while the relevant institutions are often unequipped, particularly given the absence of a structured formal sector. A large informal sector has created a dual challenge, given that workers in informal employment are difficult to target and that they contribute slightly, if at all, to overall tax collection.

Poverty remains pervasive throughout the African continent. As countries grow, a Kuznets-type analysis would suggest that they become more unequal. It has been suggested that high levels of inequality present challenges to poverty reduction when countries are growing (Cook and Pincus, 2014). Inequality manifests itself in a number of ways, including access to social services, access to infrastructure, quality of education and earnings. Social protection is frequently used as a tool to manage these imbalances for poor households, often by stabilising the level of household income or providing funds that allow access to various services.

Empirical studies on the impact of social protection in Africa are limited, with most focused on South Africa, given the progressive and extensive nature of the system and the availability of good quality and frequent survey data for the country. This chapter examines the various components of social protection, including coverage, fiscal spending and transfer values. It is now commonly known and accepted that well-targeted social protection interventions have a positive impact on poverty reduction. The impact on income inequality, however, is less clear. Therefore, this chapter considers, in detail, the relationship between the various elements of social protection and inequality, for a sample of 34 SSA countries.

The empirical analysis undertaken in this chapter utilises the Atlas of Social Protection-Indicators of Resilience and Equity (ASPIRE) dataset, which is the World Bank's first compilation of Social Protection and Labour (SPL) indicators. The data are gathered from official international household surveys in order to analyse the distributional and poverty impacts of SPL programmes. This enables to conduct a cross-country study on the impact of various programmes in SSA, an undertaking that has not been completed previously. A drawback to this study is that ASPIRE data is available for only 34 SSA nations over a disparate period of time ranging from 1998 to 2014, which limits comparison over time. Therefore, this study is limited in that it cannot provide a fuller discussion of the dynamic effects of increased social protection expenditure on poverty and inequality. Furthermore, the data are not sufficiently disaggregated beyond social assistance and social insurance programmes to establish the specific social protection programme with the greatest impact on eradicating poverty and reducing inequality. The ILO Social Security Inquiry database, which collects, stores and disseminates worldwide statistical data on social security, the World Bank World Development Indicators (WDI) and the Index of African Governance (IIAG) were also used.

The chapter is structured as follows: Section 2 discusses trends in three key measures of social protection, namely, overall expenditure levels, coverage and transfer value amounts. Section 3 then discusses the social, political and economic determinants of social protection, while Section 4 empirically analyses the relationship between inequality and social protection expenditure. Section 5 concludes.

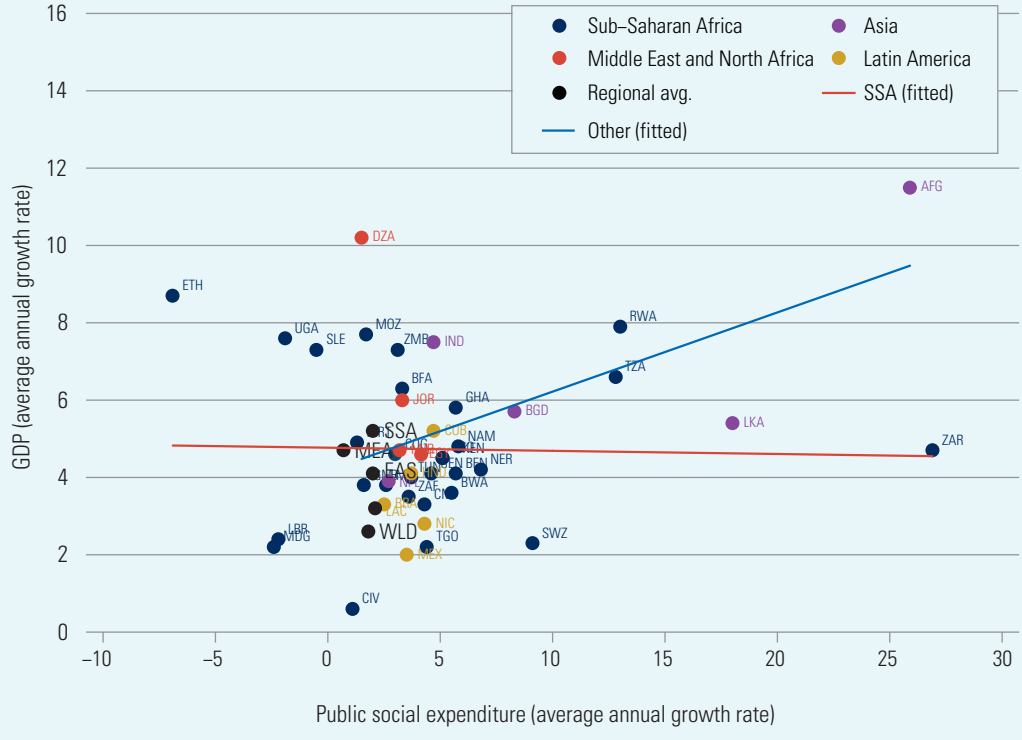
8.2 Expenditure on social protection

Between 2000 and 2008, African economies grew at twice the rate as in the 1980s and 1990s, at an average of more than 5.0 per cent annually, driven in part by spikes in commodity prices. This led to the rise of a number of high-growth economies in Africa, including, for example, Nigeria, Ethiopia,

Kenya, Zambia and Ghana. A general increase in expenditure allocated to social protection may be observed in broad terms. However, with increasing need, funding levels continue to be inadequate. The World Bank (2012a) has indicated a willingness to expand lending to increase the coverage of successful social programmes. This builds on a decade of lending for social protection in Africa that amounted to US$4.4 billion in projects, with the size of the portfolio doubling between the first and second half of the decade.[3]

Figure 8.1 presents the relationship between GDP and social protection spending as a proportion of GDP for a sample of 34 SSA countries and 21 developing countries from Latin America, Middle East and North Africa, and Asia. In addition, two simple linear regression lines were fitted, one for SSA (SSA (fitted)) and one for other developing countries (Other (fitted)). It has been observed

FIGURE 8.1 Annualised GDP growth relative to public social protection expenditure growth, 2000-2011



Source: ILO Social Security Inquiry Database (2013); World Bank (2015), World Bank Development Indicators 2015.

Notes:

1. Missing data for Cabo Verde, Comoros, Gabon, Mali, Malawi and Nigeria.
2. Annex 8.2 provides the full list of countries.
3. AAG refers to the average annual growth rate.
4. SSA=Sub-Saharan Africa; MEA = Middle East and North Africa; EAS = East Asia and Pacific; LAC = Latin America and the Caribbean; WLD = rest of the world.
5. The fitted coefficient on SSA is -0.008 and is not statistically significant; the Other fitted coefficient is 0.204 and is statistically significant at a 10.0 per cent level of significance.
6. All abbreviations are defined in Annex 8.2.

[3] Social protection funds over this decade were spent on targeted groups, labour markets, safety nets, disarmament, demobilisation and reintegration as well as on social funds.

that the coefficient of the regression line for SSA countries is statistically insignificant, while the coefficient for the other developing countries line is positive and statistically significant. A growth-social protection expenditure elasticity is derived from this, which suggests that a 1.0 per cent increase in GDP annually is related to a 0.2 per cent increase in social protection expenditure annually for the developing country sample. This suggests, in turn, that higher levels of GDP in the developing world, on average, translate into greater expenditure on social protection.

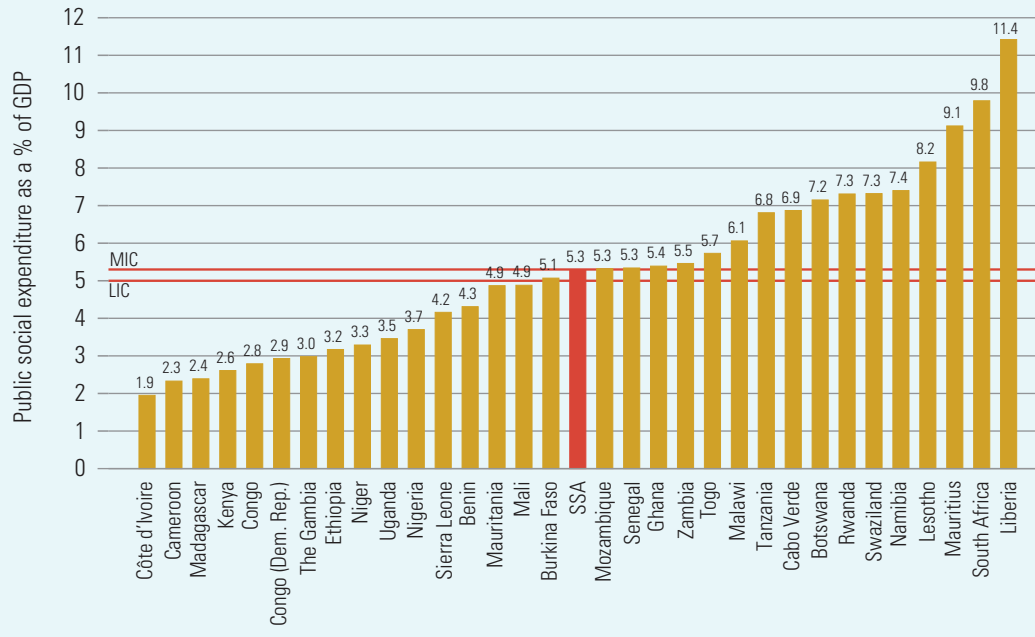
For SSA, this relationship is statistically insignificant. Hence, the evidence here suggests that on average for the region, GDP growth rates will not necessarily translate into increased social protection spending. A closer examination of the SSA data does reveal important country-level heterogeneity in the results. For example, countries such as Zambia and Mozambique, which have recorded annual GDP growth rates close to 8.0 per cent per annum between 2000 and 2011, have also increased social protection expenditure, albeit on average, by less than 5.0 per cent per annum. These countries would have a growth-social protection elasticity of less than 1.0, suggesting that social protection expenditure increases at a slower rate than economic growth. Figure 8.1 indicates a clustering of countries that have recorded low growth rates (between 3.0 and 5.0 per cent per annum) and increased social protection expenditure by between 5.0 and 10.0 per cent per annum, suggestive of a positive growth-social protection elasticity. This includes a host of Southern and West African countries.[4] However, other countries that yield low levels of annual GDP growth, such as the Democratic Republic of the Congo, have increased their annual spending on social welfare by more than 10.0 per cent per annum, indicative of positive growth-social protection elasticity. In several countries (e.g Togo and Liberia), overall spending on social protection represents a small share of the national budget and is heavily reliant on donor funding. This international assistance has continued to grow in light of recent internal shocks such as drought, floods, increased food prices, as well as other macroeconomic vulnerability (World Bank, 2012a). Conversely, Madagascar and Liberia have yielded a negative growth-social protection elasticity. While they have experienced modest growth rates, these countries have reduced social protection expenditure, due, possibly, in part to the contraction in international aid flows.

Figure 8.2 shows social protection expenditure as a share of GDP for 34 SSA countries. The data show that Liberia,[5] followed by South Africa and Mauritius, spend the largest proportion on social protection programmes, with a fiscal outlay of around double that of the SSA average. However, South Africa and Mauritius are among the few African countries that finance their social assistance spending through internal revenues, while a number of African countries finance social assistance through international aid (Weigand and Grosh, 2008). Since the 1970s, donor funding has been provided for emergency funding through food aid, famine relief and humanitarian assistance. It is only in the last decade that there has been a shift from emergency aid to more permanent social protection programmes (Barrientos, 2010). This led to pilots of cash and in-kind transfer programmes in Ghana, Kenya, Malawi, Nigeria, Uganda and Zambia (Barrientos and Hulme, 2008). More generally, a Southern African bias can be observed in terms of volume of spending, with Botswana, Swaziland and Lesotho spending, on average, 2.0 to 3.0 percentage points above the SSA mean, as well as the middle-income country (MIC) average.

[4] These countries include Côte d'Ivoire, The Gambia, Togo, Cameroon, Senegal, Ghana, Niger, South Africa, Mauritius, Lesotho, Botswana and Namibia.

[5] Since 2008, Liberia has been able to spend a high percentage of GDP on social spending, even though the country is classified as a low-income one, since the funding is mainly from donors to provide support to the poor and vulnerable following the cessation of the civil war.

FIGURE 8.2 Social protection expenditure as a percentage of GDP for SSA, 2010-2011



Source: ILO Social Security Inquiry Database (2013).
Note: Latest figures vary between countries with most countries' data spanning 2009 and 2011. The exceptions are Sierra Leone (2005) and Liberia (2005). MIC = Middle Income Country; LIC = Low Income Country.

On average, MICs and low-income countries (LICs) both spend just above 5.0 per cent of GDP on social protection expenditure, suggesting that donor financing could make up the social protection gap in LICs. This is particularly the case for Liberia, which despite its LIC status, spends the most on welfare programmes. Lower levels of social protection spending are observed mainly in West and East Africa. This is surprising to some extent because countries such as Kenya,[6] among the fastest-growing countries in the East African region, are spending below the LIC mean and median (5.19 per cent). Amongst the lowest spenders are Côte d'Ivoire, Cameroon and Madagascar. Madagascar's negative growth-social protection elasticity could stem, in part, from a prolonged political crisis in the country. Contrary to expectations, over the period 2008–2010, the country reduced its overall spending on social protection while choosing to focus on the provision of public pension funds, rather than on Social Protection and Labour (SPL) programmes.[7]

8.2.1 Social protection coverage

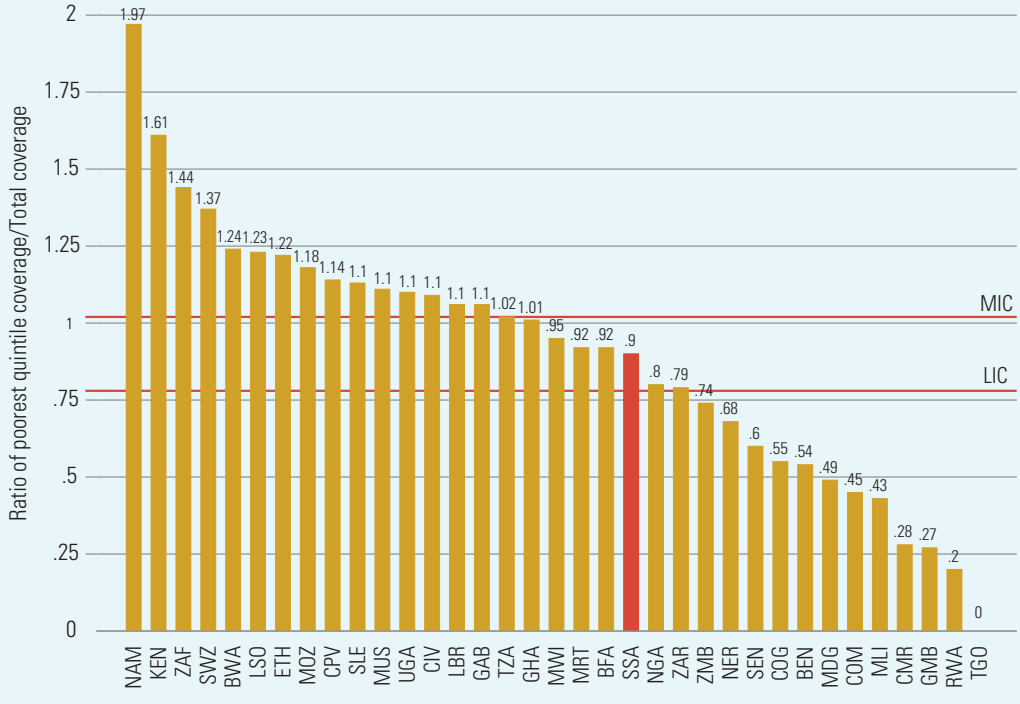
The discussion on coverage links to the broader theory of what shapes social protection in a country. Empirical evidence suggests that the targeting of the poorest quintile is often a strong predictor of

[6] About 80.0 per cent of Kenya's workforce is employed in the informal sector and approximately 15.0 per cent is covered by social security benefit programmes, which excludes a sizeable number of potential beneficiaries.

[7] Source: http://www.worldbank.org/en/news/feature/2014/10/28/a-new-approach-to-social-protection-in-madagascar-empowers-the-poor-to-help-themselves (last accessed: 4 November 2015).

positive outcomes in terms of poverty and inequality reduction (OECD, 2009). Figure 8.3 presents the ratio of coverage of the poorest quintile relative to total coverage. A larger ratio or a ratio above 1 would indicate that the nature of social protection provision in the country is pro-poor. Namibia, Kenya, South Africa, Botswana and Swaziland stand out as countries with the highest ratio of coverage of the poorest quintile to total coverage, meaning that social protection is mostly pro-poor in these countries. However, it should be noted that while Kenya's provision of social protection is pro-poor, its levels of coverage are below that of the SSA average, suggesting that very few people receive social protection, but of those who do, a significant cohort is poor.

FIGURE 8.3 Ratio of the poorest quintiles to total coverage, latest year*



Source: *The Atlas of Social Protection: Indicators of Resilience and Equity*, World Bank Group (2015).

Notes:

1. Togo reports 0.0 per cent for poorest quintile coverage.
2. *The latest year varies between 1998 and 2014, depending on country data availability.
3. All abbreviations are defined in Annex 8.2.

Southern Africa is dominant in terms of extensive coverage, as well as targeting of the poor. It may be observed that around half of the sample of SSA countries selected could be considered pro-poor in terms of their social protection targeting. The SSA average ratio, however, is just below 1. A few countries that stand out for low levels of poorest quintile coverage relative to total coverage, and where social protection is viewed as less pro-poor, include Rwanda,[8] The Gambia and Comoros,

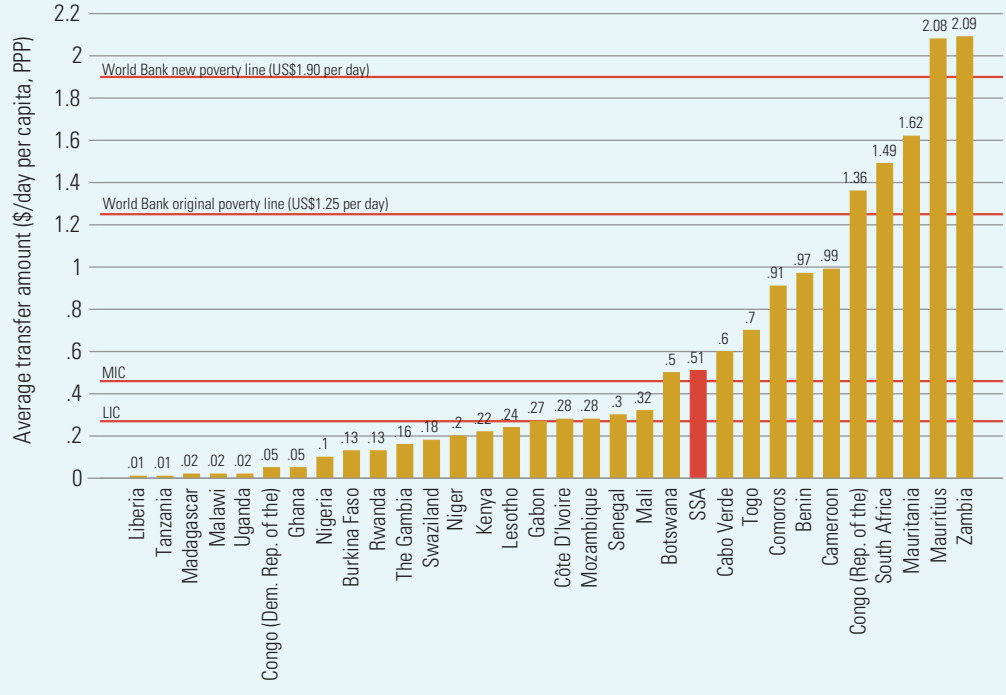
[8] It is important to note that a country may have a relatively high level for total coverage, but if social protection only covers a small share of the poorest quintile, then the ratio of poorest quintile coverage to total coverage can be low.

with ratios below 0.3. These countries have low levels of social protection generally, and where social protection exists, very few of the poor are actually covered.

8.2.2 Value of social protection expenditure

In terms of the value of social protection transferred, the more developed countries tend to transfer higher amounts per day per capita relative to the rest of SSA. Figure 8.4 reviews the average transfer value for each SSA country and the regional average of US$0.51 per day per capita. For the sake of a benchmark, poverty lines are included on this figure because they are indicative of the minimum cost of eliminating poverty (Haughton and Khandker, 2009).

FIGURE 8.4 Average transfer amount in SSA countries, latest year*



Source: The Atlas of Social Protection: Indicators of Resilience and Equity, World Bank Group (2015).
Note: *The latest year for data varies between 1998 and 2014, depending on the availability of country data.

The global average of US$1.25/day reflects the standard poverty line as defined by the World Bank. The international poverty line has been revised to US$1.90/day.[9] Measured against the former poverty line, only five SSA nations had a higher average transfer value, while only two countries (Zambia and Mauritius) exceed this threshold based on the revised line.

[9] In October 2015, the World Bank revised the international poverty line to US$1.90 per day. See Ferreira, Jolliffe and Prydz (2015).

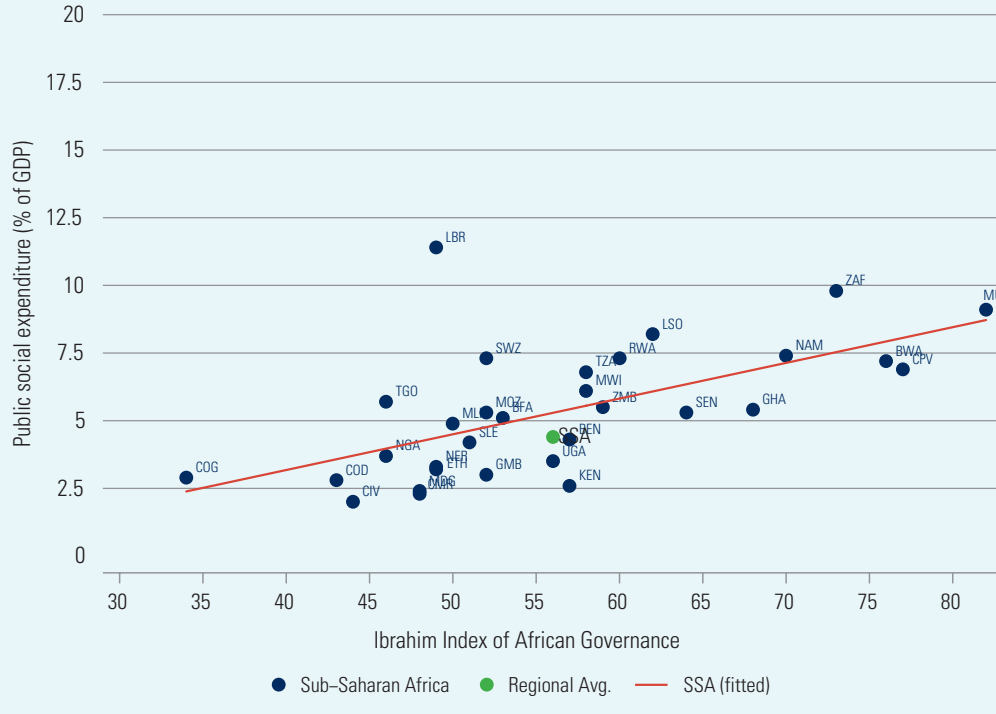
8.3 Social protection determinants

The nature and extent of social protection spend in SSA is driven by a range of social, political and economic factors, including donor funding, demographic factors such as ageing, the type of regime and historical institutions.

8.3.1 Social protection and governance

In this sub-section, we consider the link between institutional strength, such as governance, and social spending. In particular, the level of democracy and the extent of redistribution by the state are examined by applying the Mo Ibrahim Index, specifically developed for African countries.[10] Figure 8.5 presents a scatter plot of the Mo Ibrahim Index and public social protection expenditure by country. The Mo Ibrahim Index takes into account public participation and human development. The regression line suggests a statistically significant and positive relationship between the index and social protection spending. Furthermore, the regression line illustrates that for every one standard

FIGURE 8.5 Relationship between public social protection expenditure and the Mo Ibrahim Index, 2013



Source: ILO Social Security Inquiry Database (2013); Mo Ibrahim Foundation (2014).
Note: The coefficient on the SSA fitted is 2.82 and is statistically significant at a 5.0 per cent level of significance. See Annex 8.2 for a definition of abbreviations.

[10] The Mo Ibrahim Index used is the overall Ibrahim Index of African Governance (IIAG) score, which aggregates four categories: safety and rule of law, participation and human rights, sustainable economic opportunity and human development. A score of "0" indicates autocracy, whereas a score of "100" indicates democracy (Mo Ibrahim Foundation, 2014).

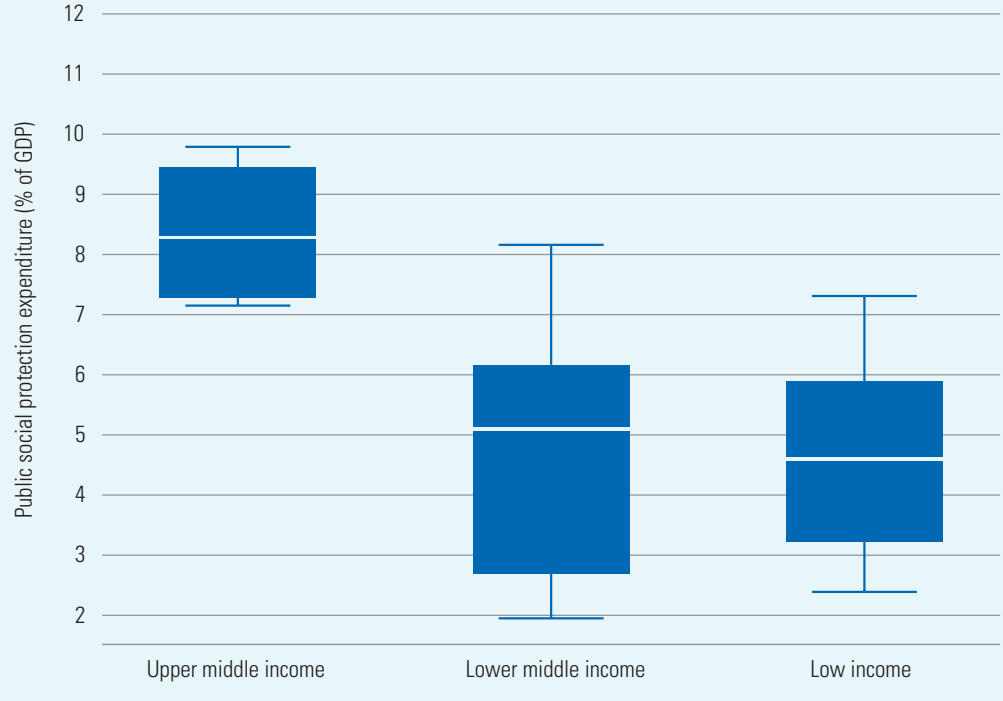
deviation increase in the Mo Ibrahim political score, social protection expenditure will increase by 2.82 per cent. This reinforces the notion that democratically governed countries are more likely to invest a larger share of their GDP on public social protection expenditure.

The results from the previous section suggest that GDP growth rates will not, in and of themselves, translate into higher levels of social protection expenditure. This may reflect low levels of initial GDP – a 'scale effect' – translating into a tax revenue base that is too low to fund social protection interventions. Alternatively, and this is the second piece of key evidence introduced here, another factor, namely, the presence of democratic governance, may also influence social protection expenditure in Africa. Ultimately, the evidence suggests that, on average, more democratic states are likely to spend more on social protection expenditure.

8.3.2 Social protection by income and resource dependence

With regard to income status, it has been observed that upper MICs spend more than lower MICs on social welfare (see figure 8.6). This is driven by high social protection expenditure in South Africa and Mauritius. Upper MICs are often at a different stage of economic development and have more resources to spend on SPLs. If South Africa is removed, mean spending for upper MICs declines by about 1.0 percentage point. This is still 2.0 percentage points higher than the mean expenditure for the other country income classifications.

FIGURE 8.6 Public social protection expenditure by income classification, latest year*

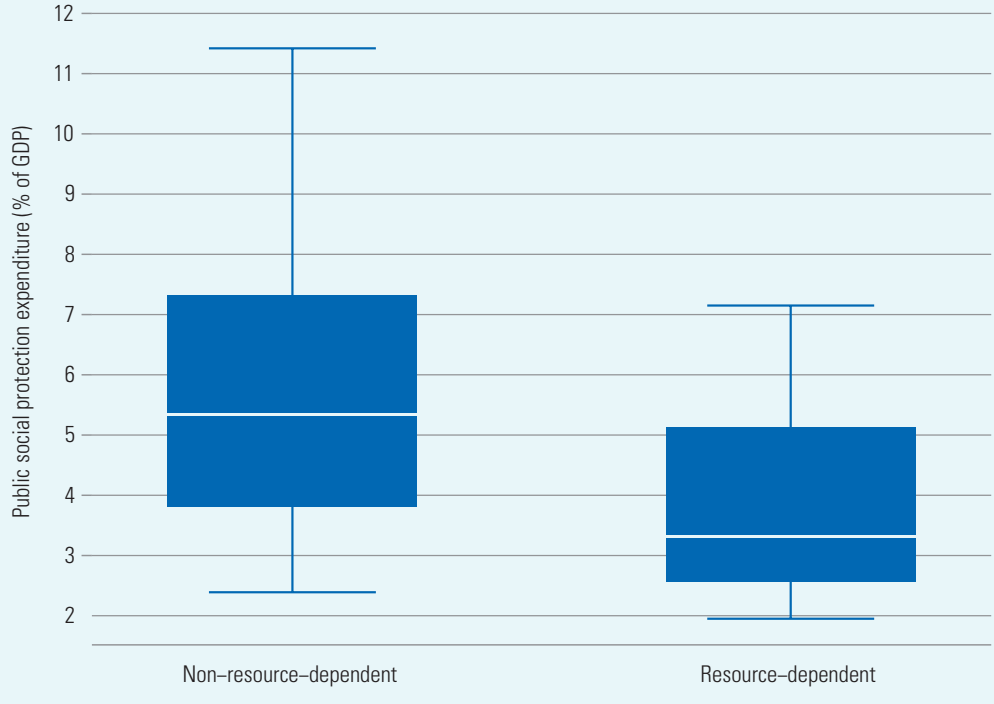


Source: ILO Social Security Inquiry Database (2013).
Note: *The latest year varies between 2009 and 2011, depending on country data availability.

However, lower MICs in SSA spend a fraction more than LICs in the region. It is important to note that, with the low revenue base alluded to above, LICs can only provide basic packages of social protection, which include social pensions, disability grants and child benefits (OECD, 2009), thus driving this differential in expenditure.

Finally, social protection expenditure is examined in relation to resource dependence. Figure 8.7 indicates that non-resource-dependent countries spend more on average than resource-dependent countries. Non-resource- and resource-dependent-countries spend, on average, 6.0 and 4.0 per cent of GDP on social protection, respectively. In addition, resource-dependent countries have a far smaller range in terms of individual country spending.

FIGURE 8.7 Public social protection expenditure by resource- and non-resource-dependent country, latest year*



Source: ILO Social Security Inquiry Database (2013).

Notes:

1. A resource-dependent country is identified as a country where resources contribute at least 50.0 per cent of total export value. Countries are identified using World Bank (2012).
2. *The latest year varies between 2009 and 2011, depending on country data availability.

Two reasons stand out for the above results. First, the unpredictability of commodity price cycles may hinder optimal fiscal planning around social protection. A commitment in a national government's budget to large segments of the population, in many cases in the form of cash transfers, could be politically and economically difficult for resource-dependent economies to operationalise. The recent and dramatic decline in global oil prices, for example, has heavily constrained the fiscal expenditure

of a number of oil-dependent African economies, most notably Angola and Nigeria.[11] Under such negative commodity price movements, one can easily understand how fiscal outlays with a large cash component, intrinsic to most forms of social protection expenditure, can be very difficult to embed in national budgetary frameworks. Second, resource-dependent countries may, arguably, lend themselves to less transparent institutions and weaker governance (Wantchekon and Jensen, 2004). As outlined earlier (see figure 8.5), governance may play a significant role in predicting a country's social protection expenditure. It is thus possible that lower levels of democratic governance, possibly induced by resource dependence, may have an impact on these economies' lack of willingness to spend on social welfare provisions for target populations.

Due to data paucity, the analysis lacks a correlation between gender and social protection expenditure. In developing countries, women are more vulnerable, more likely to be unemployed or working in vulnerable employment, and less educated (UN, 2014). Some social protection programmes have chosen to target women for these reasons, together with the fact that women are more likely to spend cash on improving the lives of their children and the family at large (Newton, 2016). Some pro-female programmes include the well-known conditional cash transfer programmes in Brazil and Mexico that target mothers and pregnant women. In South Africa, women who receive the child support grant report feeling empowered, particularly with regards to household decisions (Patel, Hochfeld and Moodley, 2013). However, there may be negative sentiment toward targeting women, as such policy can reinforce gender stereotypes and even lead to gender-based violence.

The descriptive evidence has presented a number of key trends in terms of social protection spending, thereby providing greater insight into the determinants of expenditure across the region. While these correlations are important, it is crucial to understand whether the core aim of social protection expenditure – namely, to reduce inequality levels – is being achieved within the African context. The next section turns briefly to this issue.

8.4 Empirical analysis

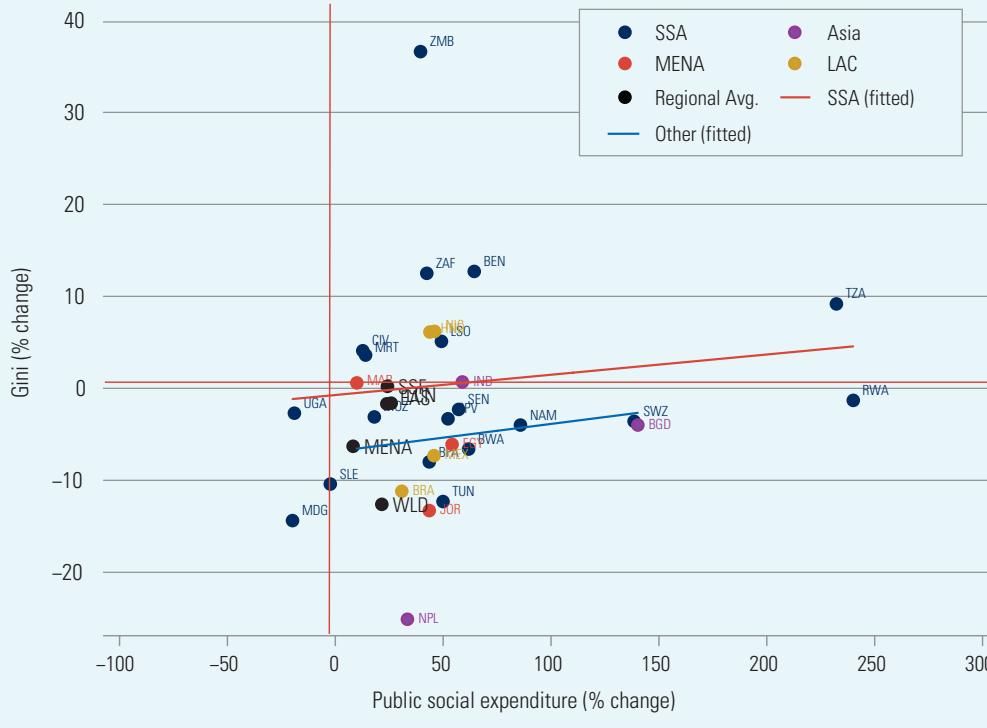
8.4.1 Social protection expenditure and inequality

Ultimately, social protection expenditure is necessary to facilitate poverty reduction as a first-round effect, together with the second-round impact of potentially reducing household income inequality (Cook and Pincus, 2014). Empirical cross-country evidence has shown that the Gini coefficient will be strongly and negatively affected through a direct increase in individual and household income arising from, for instance, a cash transfer. Cash transfers provide constant and regular income support to guard against poverty shocks and can also facilitate improved access to health, education, job search networks and transport that would otherwise not be available without this additional income. In addition, a reduction in income inequality may arise from other SPLs that provide indirect income support, namely, in-kind cash transfers such as food vouchers, nutritional programmes, food distribution programmes and other similar emergency support. The overall effectiveness of cash and in-kind transfers depends on how well targeted they are. In both Latin America and Asia, it has been found that a positive impact on inequality is derived through social protection measures that are well targeted to the poor and provided at an appropriate level (Hulme, 2008).

[11] During 2014, global crude oil prices fell steadily and almost monotonically, from around US$110/barrel in August to about US$44/barrel by November.

Figure 8.8 depicts the relationship between the change in public social protection expenditure relative to the change in Gini coefficient for both the SSA region and other developing countries in Latin America, Asia, and Middle East and North Africa (MENA). While figure 8.8 suggests that the average impact is positive between the change in the Gini coefficient and social protection expenditure, for both SSA (SSA (fitted)) and other developing countries (Other (fitted)), neither of the coefficients on the regression lines is statistically significant.

FIGURE 8.8 Average annual growth rates of public social spending relative to change in the Gini index, 2000-2011



Source: World Development Indicators, 2015; ILO Social Security Inquiry Database (2013).

Notes:

1. Sri Lanka is not included in the graph because it is an outlier.
2. Due to data availability, the Gini index for each country may differ; however, the earliest year for many countries is 2000 and the latest year is between 2009 and 2010.
3. SSA = sub-Saharan Africa; MEA = Middle East and North Africa; EAS = East Asia and Pacific; LAC = Latin America and the Caribbean; WLD = rest of the world.
4. SSA (fitted) and Other (fitted) represent fitted lines for SSA and other developed countries respectively.
5. The coefficient on SSA is 0.022 and is not statistically significant; the coefficient on other fitted line is 0.029 and is not statistically significant.
6. See Annex 8.2 for definition of abbreviations.

However, more detailed country-level analysis is revealing. For example, only three of the sample of countries examined (Uganda, Madagascar and Sierra Leone) have experienced both a decline in public social protection expenditure and a simultaneous decline in inequality. This may suggest that a more inclusive growth path was unrelated to social security spending in these three economies. Countries

such as South Africa and Benin have experienced an increase in inequality and a simultaneous increase in social protection expenditure. It is worth noting that inequality only increased by a fraction of the increase in social protection expenditure for both these countries. The outcome observed for South Africa would suggest that other factors in addition to SPL are driving this inequality.[12] There are, however, a number of countries that have experienced a decline in inequality and a simultaneous increase in social protection spending, namely Botswana, Namibia and Tunisia.

While a positive relationship was expected between increased social protection expenditure levels and lowered inequality, we note that the estimates are statistically insignificant. It is, therefore, difficult to confirm whether social protection in Africa is more or less inequality-reducing relative to the rest of the world. The sections that follow continue to examine other features of social protection that may have an impact on inequality.

8.4.2 Coverage and inequality

Figure 8.9 depicts the relationship between poorest quintile coverage and reduction in inequality. The y-axis measures the estimated reduction in the Gini coefficient as a result of the rate of coverage of the poorest quintile in the country-based SPL programmes.[13] The fitted line on both regression lines is positive and statistically significant. The evidence is clear: greater coverage through social protection of the poorest quintile is inequality-reducing. For the SSA sample, there is a strongly significant coefficient, which suggests that, on average, a 0.04 per cent decline in the Gini results from a 1.0 per cent increase in coverage of the poorest quintile.

For other regions, there is a strongly significant coefficient, suggesting that a 0.05 per cent reduction in the Gini will result from a 1.0 per cent increase in coverage. This suggests that the inequality reducing effect of social protection is lower for SSA than it is for other developing regions, where a stronger correlation is observed. However, a cohort of African[14] (and a few Asian) economies remains, clustered at the origin in figure 8.9 where SPL coverage of the poorest quintile is low and Gini reduction through SPL is also low.

8.4.3 Transfer value and inequality

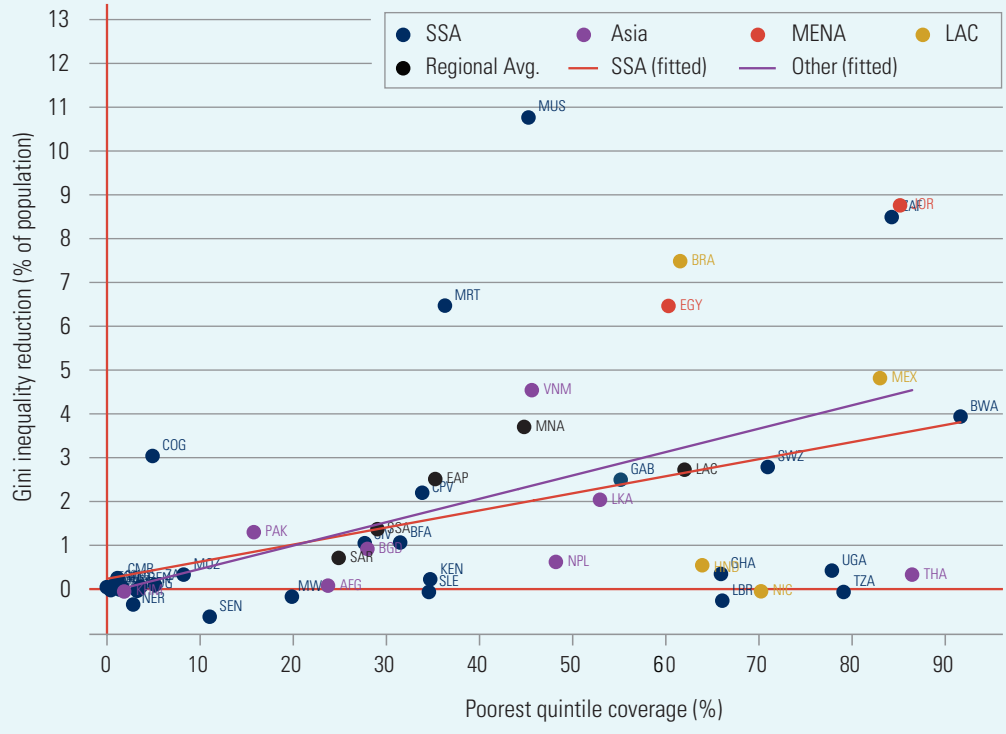
On average, higher social protection spending per person increases redistribution. However, the effectiveness of spending also depends on how well programmes are targeted to the poor. In figure 8.10, the authors consider the impact of daily average spending per person on reducing overall inequality. While both the fitted line for SSA (SSA (fitted)) and developing countries (Other (fitted)) are upward sloping, there is only a statistically significant coefficient on the fitted line for other developing countries. This suggests that a 1.79 per cent decline in the Gini is associated with a 1.0 per cent increase in average transfer amounts per capita per day. A positive Gini reduction-transfer amount elasticity was thus observed. This relationship is corroborated by the World Bank (2015), thus reinforcing the fact that the absolute value of the transfer amount is critical to reducing levels of inequality and poverty. A number of African countries are clustered at the bottom left of figure 8.10,

[12] Indeed, more detailed evidence on South Africa suggests that the Gini coefficient without social transfers is significantly higher than the Gini with social transfers. This would suggest that social expenditure in South Africa has been strongly redistributive, yet not sufficient to override the other factors that have served to jointly increase aggregate inequality in South Africa (Bhorat et al., 2009).

[13] Gini inequality reduction is estimated as (inequality pre-transfer - inequality post-transfer) / inequality pre-transfer.

[14] These African economies are Benin, Madagascar, Nigeria, Niger, The Gambia, Zimbabwe, Cameroon, Comoros, Mali, Togo and Rwanda.

FIGURE 8.9 Social protection relative to poorest quintile coverage relative to change in the Gini index – SSA and other regions



Source: *The Atlas of Social Protection: Indicators of Resilience and Equity*, World Bank Group (2015).

Notes:

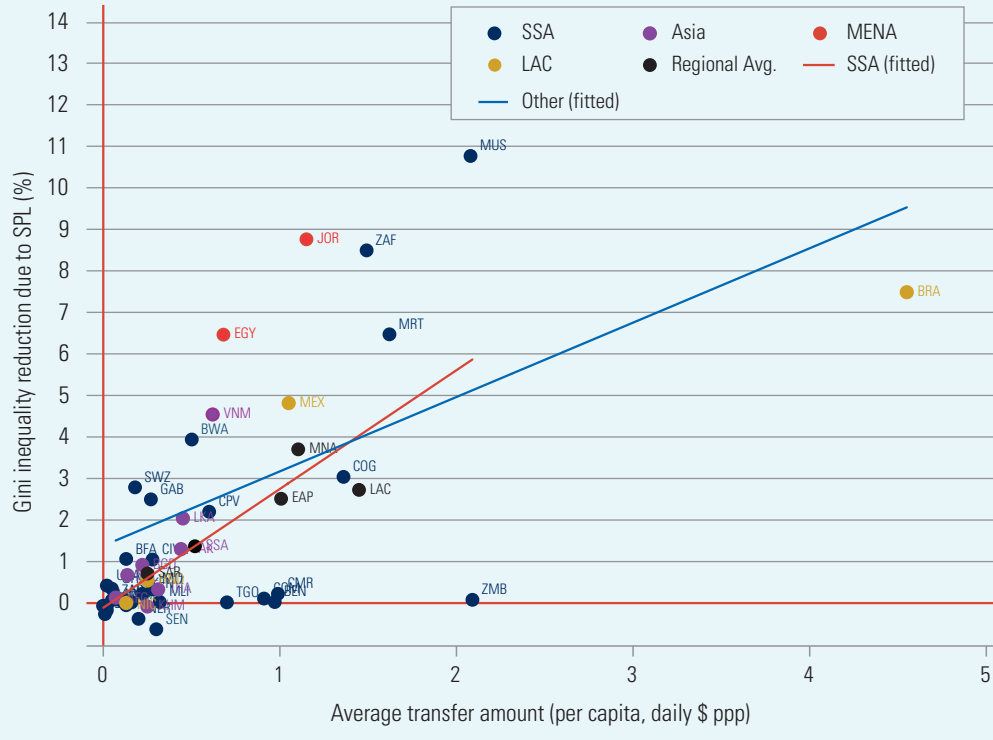
1. SSA = Sub-Saharan Africa; MEA = Middle East and North Africa; EAS = East Asia and Pacific; LAC= Latin America and the Caribbean; WLD = rest of the world.
2. Information is lacking for Ethiopia, Lesotho and Namibia.
3. The years over which Gini inequality reduction occurs vary between 1998 and 2014, depending on country data availability.
4. Gini inequality index reduction due to SPL programmes as a per cent of pre-transfer Gini index. Gini inequality reduction is estimated as (inequality pre-transfer inequality post-transfer) / inequality pre-transfer.
5. South Africa, Europe and Central Asia Region have been excluded.
6. For SSA, the coefficient is 0.039 and is significant at a 5.0 per cent level of significance. For other developing countries, the coefficient is 0.053 and is significant at a 10.0 per cent level of significance.
7. All abbreviations are defined in Annex 8.2.

indicating that the bulk of these countries have very low per capita transfers, which in turn yield a very limited reduction in income inequality.

8.4.4 A social protection index for sub-Saharan Africa

This section creates a composite index of social protection for SSA based on the following four SPL components: total public social protection expenditure as a share of GDP; total coverage of social protection; social welfare coverage of the poorest quintile; and the average transfer value. Each indicator is normalised to a value between 0.0 and 1.0 and an average of all four normalised indicators is then calculated for each country. Each aspect of the index is thus weighted equally.

FIGURE 8.10 Social protection transfer amount and Gini inequality reduction due to SPL, SSA and other developing regions



Source: *The Atlas of Social Protection: Indicators of Resilience and Equity*, World Bank Group (2015).

Notes:

1. SSA = sub-Saharan Africa; MEA = Middle East and North Africa; EAS = East Asia and Pacific; LAC= Latin America and the Caribbean; WLD = rest of the world.
2. For SSA countries, coefficient is 2.86 and is insignificant; for non-SSA countries, coefficient is 1.79 and is significant at a 5.0 per cent level of significance.
3. The average transfer amount of SPL programmes among programme beneficiaries (per capita, daily US$PPP) is estimated for the entire population. For each household, per capita average transfer is estimated as total transfers received divided by household size.
4. All abbreviations are defined in Annex 8.2.

The social protection index is clearly a measure that seeks to assimilate a variety of heterogeneous indicators measuring social protection and, in turn, to provide a summary measure from which to compare countries. The social protection index is summarised in Annex 8.1, which presents countries according to their relative ranking. South Africa, Mauritius and Botswana rank highest, while The Gambia, Democratic Republic of the Congo and Madagascar rank lowest, consistent with some of our earlier findings.

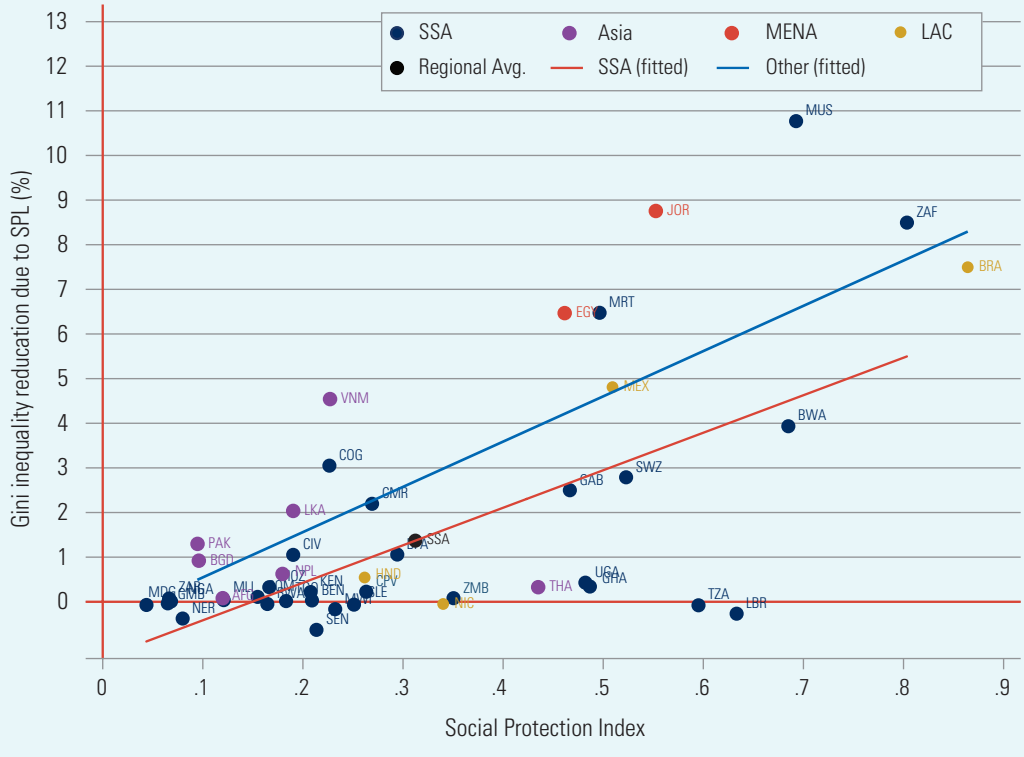
8.4.4.1 The impact on inequality

Figure 8.11 depicts the relationship between the percentage reduction in inequality due to SPL programmes and the index measure of social protection. Fitted regression lines are provided for SSA countries (SSA (fitted)) and non-SSA countries (Other (fitted)), both of which are positive and statistically significant. The regression lines indicate that stronger social protection is inequality

reducing. The estimated regression coefficient for the SSA sample (see figure 8.11 note) suggests that an 8.4 per cent decline in inequality results from a 1.0 per cent increase in the social protection index. In the case of non-SSA countries, a 1.0 per cent rise in social protection index leads to a 10.1 per cent decline in inequality.

In summary, the descriptive analysis in this section suggests that initiatives aimed at increasing and improving social protection for a country's population are likely to have inequality-reducing effects. In the case of SSA, the inequality-reducing effect is felt more keenly through efforts to increase and improve social assistance. However, the analysis in this section and, indeed, that for much of the chapter, has drawn on what are essentially correlates of relationships between social protection expenditure and overall reduction in the Gini coefficient. In efforts to partially, albeit imperfectly,

FIGURE 8.11 The Social Protection Index and Gini inequality reduction due to social protection – SSA and other developing regions



Source: ILO Social Security Inquiry Database (2013) and *The Atlas of Social Protection: Indicators of Resilience and Equity*, World Bank Group (2015).

Notes:

1. SSA (fitted) and Other (fitted) represent fitted lines for SSA and other developed countries, respectively.
2. For SSA countries, the coefficient is 8.405837 and is significant at a 5.0 per cent level of significance. For non-SSA countries, coefficient is 10.14049 and is significant at a 5.0 per cent level of significance.
3. The latest year varies between 1998 and 2014, depending on country data availability.
4. The Gini inequality reduction estimates are obtained from the ASPIRE dataset. Gini inequality reduction is estimated as (inequality pre-transfer inequality post-transfer)/inequality pre-transfer.
5. All abbreviations are defined in Annex 8.2.

tighten this analysis further, tentative econometric estimates of the relationship between social protection and inequality are provided below.

8.4.5 Inequality reduction from social protection: An econometric analysis

While the simple correlations presented above are useful, an additional econometric approach is undertaken to assess the robustness of the correlations while controlling for other factors. Essentially, the attempt here is to understand the redistributive effect of SPLs, while controlling for a range of factors that may also have an impact on social protection expenditure at a country level. Using simple ordinary least squares (OLS), the dependent variable was set as the percentage change of the Gini coefficient due to SPL programmes (as a per cent of pre-transfer Gini index[15]). A sample of 34 countries in SSA is included for which there are recent data, although because a number of observations were not available consistently, the observations in each specification are often fewer than this. In terms of the explanatory variables, we include coverage of the poorest quintile as a measure of scale of social protection, the average transfer amount (US$/day) and social protection spending as a proportion of GDP. It is assumed that greater coverage, higher transfer amounts and greater spending on social protection will reduce inequality, as indicated by international evidence (Levine et al., 2009; Cosmin, 2012; Barrientos et al., 2013). GDP, GDP per capita, population size, regional location, resource dependence and political institutions are also controlled for. This is summarised below:

$$\Delta Gini_i = \alpha_i + (SP)_i + (TR)_i + (PCov)_i + (PI)_i + (MI)_i + (GDP)_i + (GDP\ per\ capita)_i + (RD)_i + (Reg)_i + \varepsilon_i$$

Where for country *i*:

α represents the constant variable;
ΔGini represents the change in the Gini;
(SP/GDP) is public social protection expenditure;
TR is the average transfer amount;
PCov is social protection coverage of the poorest quintile;
PI is the Polity Index for a country;
MI is the Mo Ibrahim Index;
RD represents a dummy for resource dependence;
Reg is a dummy variable for the country's location on the continent;
GDP and *GDP per capita* are additional controls;
ε represents the unexplained estimated error.

There are clear limitations in attempting to estimate an effect with so few observations. In addition, an OLS cross-county regression does not allow us to detect country fixed effects and there are not enough data to run a panel estimation that would mute these effects. Our findings are summarised below.

In the first specification, a regression was run including a number of controls. However, given the nature of macroeconomic and political economy indicators, there may very well be correlation between variables. The authors therefore tested for multi-collinearity using the 'variance inflation factor' as well as correlation matrices.[16] Thus, in the second specification, variables that were suggested

[15] Gini inequality reduction is estimated as (Inequality pre-transfer–inequality post-transfer)/inequality pre-transfer) and refers to the reduction in the Gini inequality index due to SPL programmes as a per cent of pre-transfer poverty headcount.

to be collinear from the first tests were dropped, specifically population and GDP. Only one of the political economy indices was included. A similar check was performed and all political economy indices and two of the three regions in the third specification were also excluded. In the fourth specification, all controls maintaining those explanatory variables controlling for social protection

TABLE 8.1 Social protection and inequality reduction: Econometric results, SSA

Reduction in Gini	**(I)**	**(II)**	**(III)**	**(IV)**
Log of GDP (2013)	74.621			
	(25.940)*			
Log of GDP pc (2013)	-74.929	1.228	0.816	
	(26.128)*	(0.660) †	(0.509)	
Log of population size	-74.318			
	(25.873)*			
Resource dependence	0.651	0.259	0.417	
	(0.848)	(1.170)	(0.831)	
Southern Region	1.124	-0.229	-0.186	
	(1.011)	(1.386)	(0.761)	
Eastern Region	2.300	0.676		
	(1.367)	(1.870)		
Western Region	0.559	-0.300		
	(0.821)	(1.100)		
Polity Index	-0.102			
	(0.068)			
Mo Ibrahim Index	-0.030	-0.052		
	(0.045)	(0.050)		
Coverage of poorest quintile	0.029	0.021	0.028	0.042
	(0.014) †	(0.019)	(0.014) †	(0.111)*
Average transfer amount	3.594	2.006	2.232	3.082
	(0.611)*	(0.756)*	(0.697)*	(0.489)*
Latest social protection expenditure	0.348	0.188	0.070	0.015
	(0.213)	(0.227)	(0.182)	(0.148)
Constant	-2.612	-6.531	-6.464	-1.503
	(5.853)	(3.20) †	(2.939)*	(0.718)*
N	24	29	29	32
R-squared	0.9386	0.7470	0.7256	0.6839
	14.02	6.23	9.69	20.2
	0.0001	0.0004	0.0000	0.0000

Source: World Development Indicators (2015); ILO Social Security Inquiry Database (2013); Center for Systemic Peace (2014); Mo Ibrahim Index of African Governance (IIAG) (2014); and *The Atlas of Social Protection: Indicators of Resilience and Equity*, World Bank Group (2015).
Notes: An asterisk (*) denotes statistical significance at the 95.0 per cent confidence level, while a dagger (†) denotes statistically significant at the 90.0 per cent level.

[16] The variance inflation factor quantifies the severity of multicollinearity in an OLS regression analysis. It provides an index that measures how much the variance (the square of the estimate's standard deviation) of an estimated regression coefficient is increased because of collinearity.

were excluded. In table 8.1, the R-squared is highest for the first specification where all controls have been included but the model has the highest levels of multi-collinearity. The R-squared declines as we drop certain variables. In addition, we find that the F-statistic is significant for both the first and second specifications.

In terms of the first specification, it has been found that while controlling for the above-mentioned factors, the coefficients on coverage of the poorest quintile and on average transfer amount are statistically significant and positively related to a reduction in the Gini coefficient. With regard to elasticity, it was observed that a 1.0 per cent increase in coverage of the poorest quintile and a 1.0 per cent increase in coverage transfer amounts reduces inequality by 0.03 per cent and 3.54 per cent, respectively. This suggests that better targeting as well as increasing transfer amounts are the most effective means of reducing inequality through social protection. In addition, it has been observed that a reduction in Gini is positively correlated with GDP, but negatively correlated with GDP per capita and population size.

In the second specification, GDP per capita is now positively correlated with a reduction in the Gini. In terms of social protection, we find that a 1.0 per cent increase in average transfer amounts is associated with a reduction in Gini, albeit a smaller amount of 2.01 per cent. In the third specification, while none of the controls are significant, we find that a 1.0 per cent increase in social protection coverage and a 1.0 per cent increase in average transfer amounts leads to a 0.03 per cent and 2.23 per cent reduction in Gini, respectively. In the fourth specification, after excluding all controls, we find a similarly positive and larger coefficient on both coverage and transfer amount variables.

The results from the estimation above confirm some of the outcomes found in the descriptive analysis. Despite the tentative nature of the econometric analysis, our results do suggest that, at the margin, coverage of the poorest quintile of individuals and households in a society, together with higher transfer value, appear to be positively correlated with a reduction in income inequality. Finally, it is also worth noting that the larger return to inequality reduction arose from an increase in the value of the transfer, rather than from an improvement in coverage rates.

8.5 Conclusions

This chapter sets out to understand the context of social protection in SSA, given the observed prevalence in the provision of this welfare expenditure and its widely accepted role in reducing poverty and inequality. In the main, it can be observed that high GDP growth rates will not necessarily translate into increased social protection spending. This implies, then, that there are other intervening factors limiting the expansion of fiscal spending to ensure broader coverage of SPL.

This analysis considered the following prevailing factors: governance or institutional factors; national income differences; and resource intensity. A positive correlation can be observed between social protection expenditure and the presence of a democratic regime, suggesting that democratic governments may be more likely to increase their social protection expenditure outlays. In terms of income, upper MICs spend the most on social protection relative to lower MICs and LICs. This disparity is indicative of the fact that countries are at dissimilar developmental points. Finally, we conclude that non-resource-dependent countries spend more on social protection expenditure relative to resource-dependent countries. This might be linked to institutions, where resource dependence is correlated with weakened institutions.

While the chapter concludes that the link between social protection expenditure and inequality reduction is unclear, we observe a positive correlation between SPL coverage and inequality reduction. This is particularly the case where SPL programmes are particularly well targeted at the poor. In addition, a social protection index is estimated for SSA by assimilating a variety of heterogeneous sub-indicators and thus aggregating social protection into a single measure. Greater gains can be observed in terms of inequality reduction for SSA countries relative to non-SSA countries, as observed from the lower percentage increase on the derived social protection index. Hence, this index suggests that a broad array of SPL programmes is beneficial as it has an overall inequality-reducing effect.

Finally, an econometric analysis is undertaken that reiterates earlier findings regarding the importance of targeted coverage of the poor. In general, it has been observed that increased coverage of the poorest quintile of the population, together with an increase in the unit value of transfers, are significantly and positively correlated with a reduction in inequality.

The chapter has attempted to provide a more thorough and empirically richer appreciation and understanding of tangible social protection factors and how they interact with inequality in SSA. It is clear that while there are some pockets of positive social welfare provision in the region, a great deal of progress must be made in terms of adequate targeting and prioritizing social security spending to ensure developmental objectives are attained. However, as with the experience of other developing countries, it is evident that increased coverage, better targeting and high social transfer values can simultaneously improve living standards for the majority of Africans.

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ANNEX 8.1 Ranking of SSA countries by the Social Protection Index

Rank	Country	Region	Income group	Social Protection Index
1	South Africa	Southern Africa	Upper middle income	0.80
2	Mauritius	Southern Africa	Upper middle income	0.69
3	Botswana	Southern Africa	Upper middle income	0.69
4	Liberia	West Africa	Low income	0.63
5	Tanzania	East Africa	Low income	0.60
6	Lesotho	Southern Africa	Lower middle income	0.53
7	Swaziland	Southern Africa	Lower middle income	0.52
8	Mauritania	West Africa	Lower middle income	0.50
9	Ghana	West Africa	Lower middle income	0.49
10	Uganda	East Africa	Low income	0.48
11	Gabon	Central Africa	Upper middle income	0.47
12	Zambia	Southern Africa	Lower middle income	0.35
13	Namibia	Southern Africa	Upper middle income	0.30
14	Burkina Faso	West Africa	Low income	0.29
15	Cameroon	Central Africa	Lower middle income	0.27
16	Cabo Verde	West Africa	Lower middle income	0.26
17	Sierra Leone	West Africa	Low income	0.25
18	Malawi	Southern Africa	Low income	0.23
19	Congo (Rep.)	Central Africa	Lower middle income	0.23
20	Senegal	West Africa	Lower middle income	0.21
21	Benin	West Africa	Low income	0.21
22	Kenya	East Africa	Lower middle income	0.21
23	Côte d'Ivoire	West Africa	Lower middle income	0.19
24	Togo	West Africa	Low income	0.18
25	Mozambique	Southern Africa	Low income	0.17
26	Rwanda	East Africa	Low income	0.16
27	Ethiopia	East Africa	Low income	0.16
28	Comoros	East Africa	Low income	0.15
29	Mali	West Africa	Low income	0.12
30	Niger	West Africa	Low income	0.08
31	Nigeria	West Africa	Lower middle income	0.07
32	Congo (Dem. Rep.)	Central Africa	Low income	0.07
33	Gambia, The	West Africa	Low income	0.07
34	Madagascar	Southern Africa	Low income	0.04

Source: ILO Social Security Inquiry Database (2013) and *The Atlas of Social Protection: Indicators of Resilience and Equity*, World Bank Group (2015).

ANNEX 8.2 International Standards Organisation (ISO) 3-digit alphabetic codes

Country	ISO	Country	ISO	Country	ISO	Country	ISO
ALBANIA	ALB	ESTONIA	EST	LIBYA	LBY	SAUDI ARABIA	SAU
ALGERIA	DZA	ETHIOPIA	ETH	LITHUANIA	LTU	SENEGAL	SEN
ANGOLA	AGO	FINLAND	FIN	MACEDONIA, FYR	MKD	SERBIA	SRB
ARGENTINA	ARG	FRANCE	FRA	MADAGASCAR	MDG	SINGAPORE	SGP
AUSTRALIA	AUS	GABON	GAB	MALAWI	MWI	SLOVAK REPUBLIC	SVK
AUSTRIA	AUT	GEORGIA	GEO	MALAYSIA	MYS	SLOVENIA	SVN
AZERBAIJAN	AZE	GERMANY	DEU	MALI	MLI	SOUTH AFRICA	ZAF
BANGLADESH	BGD	GHANA	GHA	MAURITANIA	MRT	SPAIN	ESP
BELARUS	BLR	GREECE	GRC	MAURITIUS	MUS	SRI LANKA	LKA
BELGIUM	BEL	GUATEMALA	GTM	MEXICO	MEX	SUDAN	SDN
BOLIVIA	BOL	GUINEA	GIN	MOLDOVA	MDA	SWEDEN	SWE
BOSNIA AND HERZEGOVINA	BIH	HONDURAS	HND	MONGOLIA	MNG	SWITZERLAND	CHE
BOTSWANA	BWA	HONG KONG SAR, CHINA	HKG	MOROCCO	MAR	SYRIAN ARAB REPUBLIC	SYR
BRAZIL	BRA	HUNGARY	HUN	MOZAMBIQUE	MOZ	TAJIKISTAN	TJK
BULGARIA	BGR	INDIA	IND	NAMIBIA	NAM	TANZANIA (UNITED REP.)	TZA
CAMBODIA	KHM	INDONESIA	IDN	NETHERLANDS	NLD	THAILAND	THA
CAMEROON	CMR	IRAN (ISLAMIC REP.)	IRN	NEW ZEALAND	NZL	TRINIDAD AND TOBAGO	TTO
CANADA	CAN	IRELAND	IRL	NICARAGUA	NIC	TUNISIA	TUN
CHILE	CHL	ISRAEL	ISR	NIGERIA	NGA	TURKEY	TUR
CHINA	CHN	ITALY	ITA	NORWAY	NOR	TURKMENISTAN	TKM
COLOMBIA	COL	JAMAICA	JAM	OMAN	OMN	UGANDA	UGA
CONGO (REP.)	COG	JAPAN	JPN	PAKISTAN	PAK	UKRAINE	UKR
COSTA RICA	CRI	JORDAN	JOR	PANAMA	PAN	UNITED ARAB EMIRATES	ARE
CÔTE D'IVOIRE	CIV	KAZAKHSTAN	KAZ	PAPUA NEW GUINEA	PNG	UNITED KINGDOM	GBR
CROATIA	HRV	KENYA	KEN	PARAGUAY	PRY	UNITED STATES	USA
CUBA	CUB	KOREA (REP.)	KOR	PERU	PER	URUGUAY	URY
CZECH REPUBLIC	CZE	KUWAIT	KWT	PHILIPPINES	PHL	UZBEKISTAN	UZB
DENMARK	DNK	KYRGYZ REPUBLIC	KGZ	POLAND	POL	VENEZUELA (BOL. REP.)	VEN
DOMINICAN REPUBLIC	DOM	LAO PDR	LAO	PORTUGAL	PRT	VIET NAM	VNM
ECUADOR	ECU	LATVIA	LVA	QATAR	QAT	YEMEN (REP.)	YEM
EGYPT, ARAB REP.	EGY	LEBANON	LBN	ROMANIA	ROU	ZAMBIA	ZMB
EL SALVADOR	SLV	LIBERIA	LBR	RUSSIAN FEDERATION	RUS	ZIMBABWE	ZWE

Source: World Development Indicators (WDI).