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Poverty, Inequality and Social Protection in Myanmar

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Abstract

In 2014, prior to the political transition of 2015 towards democracy, the government published the Myanmar National Social Protection Strategic Plan with the aim of supporting socio-economic development, and strengthening the resilience of vulnerable people against shocks and life cycle contingencies. In this study, we take stock of the social protection system in place in Myanmar until the end of 2020, paying attention to the design features, and levels of institutionalisation of these programmes. We conduct a poverty and inequality decomposition analysis as well as a benefit-incidence analysis to examine the degree of progressivity or regressivity of these programmes. Overall, we find low coverage rates of welfare benefits, with negligible poverty reducing effects at the national level. The contribution of welfare benefits to reducing inequality is mixed, with social insurance having disequalising effects while social assistance programmes have a more equalizing contribution to the distribution of income. Further simulation analysis indicates that expanding coverage under poverty targeting approaches would produce larger welfare gains than universal approaches in the delivery of welfare benefits, irrespective of the design features of programmes.

Keywords: social protection, poverty, inequality, decomposition, benefit incidence analysis

JEL Classification: H53, H550, I31, I38 O150

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1. Introduction

Over the past two decades, social protection has become an integral part of antipoverty policy strategies across the developing world. Social protection includes distinctive policy strategies within social insurance and social assistance systems, and labour market regulations. Social insurance includes contributory schemes such as old-age and disability pensions, health insurance, and occupational injuries benefits designed to protect workers against life-course and work-related contingencies. Labour market regulations are legal frameworks aimed at ensuring minimum standards for employment and safeguarding workers' rights. Social assistance includes tax-financed, and also donor-funded, programmes designed to address poverty and vulnerability (ILO 2001; Niño-Zarazúa 2019). Conditional Cash Transfer (CCT) programmes such as the Philippines' Pantawid Pamilyang programme, social pensions such as India's Indira Gandhi National Old Age Pension Scheme; cash transfers such as China's (Urban and Rural) DiBao, and public works such as India's National Rural Employment Guarantee Scheme, are prominent examples of social assistance in the developing world (see Barrientos, Niño-Zarazúa, and Maitrot (2010) for a typology).

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This study contributes to the literature by providing an analysis of the social protection system in Myanmar until the end of 2020, paying attention to the design features of policies, their level of institutionalisation and financing, as well as their level of coverage. We focus on social insurance and social assistance, as these policies involve direct provision of welfare benefits to targeted populations, which have a direct effect on household welfare, poverty and inequality.

Social assistance has experienced more dynamics than social insurance, in terms of coverage and design innovations across the developing world. In the East Asia and Pacific region in particular, approximately 42% of the population is currently covered by social assistance vis-à-vis the more modest rate of protection (26.8%) provided by social insurance. This reflects, in part, the scale of informality and the large subsistence agriculture sector that continues to play a vital role in livelihood strategies in the region.

In Myanmar, the system of social protection has over the past decade remained at an early stage of development, with policies scattered and fragmented across government departments, and serving a fraction of the eligible population (see Table 1). Indeed, Myanmar has significantly more precarious welfare institutions than neighbouring countries and countries with similar levels of economic development, as measured by the average of national income. The limited share of government expenditure devoted to social protection, which stands at around 0.8% of GDP, has also meant that the system remains has been constrained by its ability to expand protection to vulnerable populations, leaving households to rely on informal forms of safety nets against idiosyncratic and covariate shocks and life-course contingencies.[3]

Table 1. Social protection coverage by type of programme 1/

	Myanmar 2/	East Asia & Pacific 3/	Lower-middle income 3/	World 3/
All Social Assistance	**8.73**	**42.12**	**57.73**	**47.46**
Cash Transfers	8.73	11.33	3.58	8.15
Conditional Cash Transfers	0.00	3.07	2.34	3.36
Public Works	0.00	0.00	8.78	4.24
School Feeding	0.00	1.23	2.66	2.68
Social Pensions	0.00	1.42	0.81	1.90
Other Social Assistance	0.00	3.41	12.41	8.12
All Social Insurance	**5.35**	**26.80**	**12.56**	**19.92**
Contributory Pensions	5.35	26.12	10.54	18.59
Other Social Insurance	0.00	1.56	2.48	1.92

Source: Authors' calculations based on World Bank's ASPIRE database
1/ Coverage measures the percentage of population participating in a social protection program. It includes direct and indirect beneficiaries.
2/ Figures corresponding to 2017
3/ Figures corresponding to the average over the period 2010-2018

To investigate the effective level of coverage of the system of social protection in Myanmar, we conduct a decomposition analysis that also helps us unpack the poverty and inequality reducing effects of various welfare benefits on the targeted population, and the country as a whole. In addition, we conduct a benefit-incidence analysis to understand the progressivity or

[3] Public social protection expenditure in Myanmar remains one of the lowest in the Southeast Asia region, representing approximately 0.8% of GDP, relative to a regional average of 2%.

regressivity of the existing programmes. Since the current social protection system in Myanmar remains limited in its capacity to provide protection to vulnerable populations, we carry out a simulation exercise to assess the potential poverty and inequality reducing effects of scaling up welfare benefits under two alternative scenarios: one assuming a universal approach, in which all eligible populations are covered by the existing policies. In the other scenario, we take a poverty targeting approach, in which all eligible populations with incomes below the poverty line receive a welfare benefit.

Overall, we find a low rate of coverage among social insurance and social assistance programmes, with heterogeneous although marginal poverty reducing effects at the national level. The contribution of welfare benefits to reducing inequality is mixed, with social insurance having disequalising effects while social assistance programmes observing a more equalizing contribution to the distribution of income. Nonetheless, none of these programmes achieve a pro-poor redistribution. Simulation analysis indicates that poverty targeting approaches would produce larger welfare gains than universal approaches in the delivery of welfare benefits, irrespective of the design features of programmes.

In Section 2, we present a brief overview of the system of social protection in Myanmar. Section 3 discusses the methods and data used for analysis. Section 4 presents the results of the poverty targeting analysis, the decomposition analysis of the poverty and inequality reducing contributions of social insurance and social assistance and the benefit incidence analysis. Section 5 presents the results of the simulation analysis under various hypothetical scenarios of welfare benefit delivery whereas Section 6 concludes.

2. The social protection system in Myanmar

Since the inception of the Social Security Act in 1954, Myanmar's social protection system has experienced limited evolution in terms of coverage and level of institutionalisation. In 2014, prior to the political transition of 2015 towards democracy, the government published the Myanmar National Social Protection Strategic Plan with the aim of supporting socio-economic development, and strengthening resilience against risks. The plan was strongly influenced by international organizations, in particular UNICEF and the ILO, taking a strong stance on universality and integrated national systems. UNICEF (2014) has by and large championed programmes that focus on children, while the ILO (2015) has promoted programmes that focus on the working-age population, under its social protection floor initiative (SPFI).

Nevertheless, social protection remains at an embryonic level of institutionalisation, fragmented in its coverage across regions and states, with substantial exclusion errors in the delivery of welfare benefits, while its breadth of coverage on issues related to health, childhood support and elderly protection remains extremely limited. Indeed, the World Bank (2015) has recently argued that the existing social protection system has been targeted almost exclusively at the wrong demographics, with only 0.1 per cent of the existing expenditure focused on the poorest and most vulnerable. This became particularly apparent following the devastating Cyclone Nargis in 2008, which left up to 3 million people homeless and without income.

With assistance from the International Labour Organization (ILO) and UNICEF, the Myanmar government set about addressing perceived deficiencies. The Myanmar National Social Protection Strategic Plan (MNSPSP) of 2014 set out several programmes covering beneficiaries from pre-birth to death (Republic of the Union of Myanmar, 2014). Koehler and

Rabi (2017) argue that while there had been a step-by-step introduction of some components of the plan after 2014, there has been limited progress in the implementation of the plan, in part due to the extensive attention given to crises in conflict areas, and the complexity and costs associated with the implementation of the plan. In addition, the country has not ratified any of the ILO social security conventions, which *"set out minimum standards of protection to guide the development of benefit schemes and national social security systems, based on good practices from all regions of the world".*[4] This seems to reflect a constrained commitment by the Myanmar government to expand the social protection system in the country.

In the sections that follow, we present an overview of the social protection system in place at the end of 2020. We separate the system into two main areas of protection: one group of contributory schemes fall under the *social insurance* subsystem that provides coverage and protection to formal workers, in particular those employed in the civil service, against lifecycle contingencies. The second group integrates non-contributory programmes that are part of *social assistance* policies designed to provide protection to poor and vulnerable populations.

2.1. Social insurance schemes

The Ministry of Labour, Employment and Social Security (MOLESS) has provided social insurance for workers in the formal sector, paid by both the employee and the employer. Social insurance schemes are regulated by the Social Security Law (2012), which includes six types of insurance, providing assistance in case of workplace injury, sickness, maternity and death of household members (see ILO 2018a). According to the ILO (2017) Guide to Myanmar Labour Law, the Social Security Law provides protection against unemployment and a pension for those aged 60 and older, although the schemes have not been fully implemented. Assistance was accessed by 765,000 beneficiaries as of 2015, only 11.8% of formal employees, most of whom belong to the civil service. From 2003 to 2015, the number of insured workers with the Social Security Board increased from 500,700 to 871,320, with an average annual growth of 4%. Of those, 45% were male and 55% female in 2015 (see ILO 2018b).

The Ministry of Finance (MOF) has also provided a Civil Service Pension Scheme, which covered around 843,000 beneficiaries in 2015. According to the Social Security Law (2012), all companies with five or more workers need to register with the Social Security Township Office within 30 days of start of business and pay regular contributions to insure their workers. Employers and employees contribute to the Health and Social Care Fund 2% if the worker is younger than 60 years old, and 2.5% if the person is 60 years old or older. Employers contribute 1% to the Employment injury Fund, while the employees can contribute up to 1.5% in case of repeated injury. Despite these regulations, little had been done to enforce the law, leading to low coverage rates of social insurance.

2.2. Social assistance programmes

The government and international organisations have introduced a series of programmes aimed to protect early childhood and school age children. The Maternal and Child Health Voucher Scheme (MCHVS) is implemented by the Ministry of Health and Sports (MOHS) and is partially funded by the World Health Organization (WHO). It provides food and micronutrient supplements to approximately 1,300 pregnant and lactating women.

[4] The ILO conventions on social security can be found at: https://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/social-security/lang--en/index.htm.

The School Stipend Programme is administered by the Ministry of Education and provides stipends to approximately 37,000 children attending public schools. It provides MMK5,000 (approximately US$3.65) per month to primary school children, MMK8,000 to middle school children and MMK10,000 to high school children. Scholarships and textbooks may also be provided on a discretionary basis. The School Feeding Programme was launched in January 2013 providing on-site school feeding of a daily snack and fortified high energy biscuits (HEB) to approximately 500,000 children attending childhood care development centres and primary schools, during the full academic year. The programme is funded by the World Food Programme (WFP) and UNICEF.

The Ministry of Social Welfare, Relief and Resettlement established two pension schemes over the past decade. The Allowance for People with Disabilities Programme was introduced in 2018 to provide a monthly allowance of MMK16,000 (USD11.65) to children with disabilities, and MMK30,000 (USD21.84) to adults up to the age 64, living with disabilities. The second scheme provides a non-contributory social pension of MMK10,000 a month to people aged 85 and older. The scheme was introduced in 2015 to cover people aged 90 and older but the age threshold was lowered to 85 in 2018 to increase the rate of coverage of the elderly population. Finally, there are two programmes targeting the unskilled and unemployed working age populations. The Livelihoods and Food Security Trust (LIFT) and the WFP finance two separate Cash for Work programmes that supports community infrastructure. These programmes covered 576,000 and 1.1 million households, respectively in 2014 (see Table 2 for a summary of programmes).

Table 2. Summary of the social protection system in Myanmar

Programme	Average transfer	Targeted population	Coverage	Source of funding	Total expenditure 2015 (MMK billion)
Social Assistance					
School Stipend Programme	Primary level—MMK5,000 per month; Middle school—MMK 8,000 per month; High school—MMK 10,000 per month	Children attending public primary schools. Priority is given to poor and orphaned students and then to students with siblings, whose father has died.	37,000 children in public primary schools	Ministry of Education	3.1
School Feeding Programme	One hot meal	Children attending public preschool and primary schools.	500,000 children. Projected to cover all children enrolled in public pre-school and primary schools	WFP and UNICEF	Unknown
Maternal and Child Health	Monthly MMK15,000 (USD10.92)	Women with children aged <2	1300 women It was expected to reach 2.25	Ministry of Health and Sports and WHO	10

Voucher Scheme			million beneficiaries by 2017		
Allowance for People with Disabilities Programme	MMK16,000 (USD11.65) paid monthly for each child with disability. MMK30,000 (USD21.84) paid monthly for each adult up to the age 64	Children and adults with disabilities	Unknown.	Ministry of Social Welfare, Relief and Resettlement	
Social Pension people aged 85+	A monthly payment of MMK10,000 for every person aged +85	People aged 85+	Unknown. Expected to benefit as many as 3.5 million people	Ministry of Social Welfare, Relief and Resettlement	
Cash and Food for Work	Unknown	Unemployed and unskilled workers	1,100,000	WFP	Unknown
Cash for Work	Provision of local public employment for up to 60 days per year at a daily rate of MMK3,000 (USD2.18), which is equivalent to the minimum wage in 2014.	Unemployed and unskilled (no primary or secondary education) working-age population	576,000	Livelihoods and Food Security Trust	Unknown
Social Insurance					
Civil Service Pension Scheme (age 60+)	50 per cent of their final salary	People aged 60+ that worked in the formal sector.	843,000	Ministry of Finance	362
Social insurance against sickness	60% of monthly average wage for up to 26 weeks	People working in the formal sector	Formal workers	Ministry of Labour, Employment and Social Security	4
Maternity leave	66.7% of monthly average wage for up to 14 weeks		Formal workers	Ministry of Labour, Employment and Social Security	
Work Injury – Temporary Disability	66.7% of monthly average wage		Formal workers	Ministry of Labour, Employment and Social Security	

Source: Authors, based on multiple sources.
Note: The daily wage rate of cash for work programmes are below the minimum wage

2.3. Coverage and public spending

World Bank (2015) draws on a number of sources to estimate coverage and spending on social protection. Table 3 summarises the findings specifically for the government-funded programmes. A total of MMK379.1 billion (or USD27.5 million) was spent in the 2014/15 financial year and this represented just 0.57 percentage points of the national Gross Domestic Product. It is estimated that 1.67 million of the 54 million Myanmar population received some form of benefit, which represents about 3.24 per cent of the whole population. This figure is likely to be an overestimation due to double counting in the number of actual beneficiaries.

Table 3. Spending and Coverage of Government Programs in the 2014/15 Financial Year

Government Program	Total Expenditure 2014/15 (MMK billion)	% Government Expenditure	% GDP	Estimated Number of Beneficiaries	Percentage Total Population Covered (Percentage of Eligible Population Covered and Age Group)[a]
Civil Service Pensions (MOF)	362	1.65	0.55	843,000	1.64, (18.84, 60+)
Social Security for Formal Sector Workers	4[b]	0.02	0.01	765,000	1.49, (2.44, 15-59)
Social Welfare Programs (MSWRR)[c]	10	0.05	0.02	25,000	0.05 (all groups)
Stipends Program (MOE)[d]	3.1	0.014	0.005	37,000	0.07 (0.38, 10-19)
Total Social Protection	**379.1**	**1.73**	**0.57**	**1,670,000**	**3.24 (all groups)**
Total Social Assistance [e]	13.1	0.06	0.02	62,000	0.12 (all groups)

Notes: a) Myanmar's population was 51,486,253 and age disaggregated figures are used based on Census 2014. b) Budget estimate. Social security figures exclude contributions from affiliates (more than MMK9 billion in 2013/14 based on ILO figures. c) The number of beneficiaries of social welfare programs is taken from the SPSP (2014) and includes supply-side beneficiaries for consistency with budget figures. d) Figures for the stipends pilot are provided by the MOE. e) The Department of Budget does not compile disaggregated figures for social assistance programmes.

Importantly, coverage halves when the payment of civil service pensions are removed from calculations. Payments of these pensions, generally to financially secure people in urban settings, are the biggest share of government spending on social protection. The government spent just MMK17.1 billion (USD2.4 million) on all other programmes, with all other expenditure being provided by foreign aid contributions. Before turning the attention to the decomposition analysis, we present in Section 3, the methods and data used for empirical analysis.

3. Methods of analysis and data

3.1. Methods of Analysis

To assess the poverty and inequality reducing effects of the social protection programmes, we adopt several methods. First, we estimate the per capita (dollar) impact of an additional income contribution from a transfer programme (e.g., the Civil Service Pension Scheme) on the poverty headcount ratio of its targeted population (i.e., the population aged 60+), and that of the entire population, following the Duclos and Araar (2006) method. The per capita dollar effect of the targeted transfer on the poverty headcount index can be defined as:

$$TYT=\begin{cases}-\propto P(k,z;\propto -1) & if \ \propto \geq 1 \\ -f(k,z) & if \ \propto = 0\end{cases} \quad (1)$$

where $\propto$ is the parameter of the Foster-Green-Thorbecke (FGT) poverty measures, z, is the poverty line, k is the population subgroup upon which the income transfer is targeted, while $f(k,z)$ is the density function of the population group k, with income levels at the poverty line z. We can also obtain the *pure* per capita dollar impact of a proportional marginal contribution of welfare benefits within the targeted populations, assuming inequality neutral targeting on the poverty headcount, as follows:

$$INT=\begin{cases}\propto \frac{P(k,z;\propto)-zP(k,z;\propto-1)}{\mu(k)} & if \ \propto \geq 1 \\ \frac{zf(k,z)}{\mu(k)} & if \ \propto = 0\end{cases} \quad (2)$$

However, since we expect welfare benefits to do have an inequality effect on the targeted populations, we conduct a decomposition analysis to unpack the poverty and inequality effects of social insurance schemes and social assistance programmes. First, to conduct the poverty decomposition analysis, let us denote s_K the income source from K sources, including from welfare benefits. The FGT poverty indices can be defined as:

$$\hat{p}(z,\propto,y=\sum_{k=1}^{K} s_K)=\frac{\sum_{i=1}^{n}(1-{}^{y}/_{z})^{\propto}}{\sum_{i=1}^{n} w_i}, \quad (2)$$

where w_i is the weight of individual *i* over the sample *n.* To estimate the absolute contribution of a transfer programme to reducing the poverty headcount index, we set $\propto = 0$ and adopt the Shapley value algorithm proposed by Araar A and Duclos (2008).

For the case of inequality, we resort to an analytical approach, following the Lerman and Yitzhaki (1985) method, to decompose the contribution of s_K income sources to the relative Gini index as follows:

$$I(\tilde{y})=\frac{\mu_k}{\mu_{\tilde{y}}}\tilde{C}_k, \quad (3)$$

where $\mu_{\tilde{y}}$ is the mean of the approximate income value $\tilde{y}$, while $\tilde{C}_k$ is the concentration coefficient of the income sources *k,* including welfare benefits. As robustness check, we also compute the decomposition of the Gini index, following the Araar (2006) method. The results are qualitative similar and presented in on-line Appendix A.

Finally, to measure the distribution of transfer benefits relative to the distribution of living standards, we conduct a benefit incidence analysis (BIA) as our fourth method of analysis. BIA allow us to assess the distributional impact of government (or development aid) spending on transfer programmes, and measure how different socio-economic groups benefit from these welfare-benefit programmes. A distinctive feature of social protection programmes across the developing world is their poverty focus, justifiable under the law of diminishing marginal utility of income from transfer programmes (Arrow 1951; Rawls 1971; Sen 2011; 1970).

The BIA method has been predominantly used to assess the distributional effects of public expenditure on the health and education sectors (see e.g. Demery et al. 1995; Castro-Leal 1996; Castro-Leal et al. 1999; Castro-Leal et al. 2000; Sahn and Younger 2000; van de Walle 2003; McIntyre and Ataguba 2011). Few studies have focused on social protection policies, in the context of workfare programmes (Jalan and Ravallion 2003), old age pensions (Lustig and Pessino 2014), and non-contributory public health insurance policies (Scott 2006).[5]

The BIA method produces estimates of the rate of participation, R, of the eligible population in transfer programme p based on socio-economic characteristics of group, g_i, defined a priori by programme administrators. Following Araar and Duclos (2013), R take the following form:

$$R_g^p = \frac{\sum_{i=1}^{n} w_i f_i^p I(i \in g)}{\sum_{i=1}^{n} w_i e_i^p I(i \in g)}, \quad (4)$$

where w_i is the sampling weight of individual i, e_i^p is the number of individuals eligible to receive the transfer programme, while f_i^p is the number of individuals who actually received the transfer programme.

The unit cost of the transfer programme, p, for individual i living in region, r, is equal to:

$$UC_i^p = \frac{E_r^p}{\sum_{i=1}^{nr} w_i f_i^p}, \quad (5)$$

where n_r is the number of sampled households in Myanmar's region r, and E_r^p is the public expenditure on the transfer programme operating in region r. We can also derive the benefit for individual i from receiving the transfer programme as follows:

$$B_i^p = f_i^p UC_i^p. \quad (6)$$

Thus, the average benefit for those who receive the transfer programme, and belong to a socioeconomic group, g, is equal to:

$$AB_g^p = \frac{\sum_{i=1}^{n} w_i B_i^p I(i \in g)}{\sum_{i=1}^{n} w_i f_i^p I(i \in g)}, \quad (7)$$

[5] Conventionally, to conduct BIA, it is required both household survey data and public expenditure data on transfer programmes. However, in the absence of reliable expenditure data, we adopt a frequency data approach, which assumes that the product of the sum of individual benefits from a transfer programme observed in the household survey and the expansion factor of the survey, equals the total public expenditure allocated on that transfer programme.

3.2. Data

To operationalise the methods, we resort to the Myanmar Living Conditions Survey 2017 (MLCS-2017), which is multi-topic living conditions survey implemented by the Central Statistical Organization (CSO) of the Ministry of Planning and Finance. The MLCS-2017 survey is nationally representative, and also representative of states and regions, and urban and rural areas. It covered all districts, 296 of the 330 townships, and a total of 13,730 households.

The survey collected data on household and individual characteristics, housing conditions, education, health, labour activities, income sources, food and non-food consumption expenditure, and productive and financial assets. Of particular importance for our study is a section of the questionnaire that collects information on whether household members received in the past 12 months support in cash or in-kind from the following sources: 1) government assistance, via for example cash support to students or the elderly, 2) NGOs or Development Organizations, for example WFP, UNICEF, or Save the Children, 3) Assistance from private donors or friends, 4) contributory pension payments, 5) interests from savings deposits, stocks, shares, lending, and contributed capital, and 6) other sources of income, excluding remittances and salaries. We use this information in Myanmar kyat and transform values to US dollars of 2011 to make results comparable to international experiences.

While this set of questions does not allow us to identify with precision the contribution of specific transfer programmes (with the exception of the contributory Civil Service Pension Scheme) to poverty and inequality reduction, we still can obtain approximate estimates of the poverty and inequality reducing effects of these policies. To do so, we follow the design features of existing transfer programmes in the country, and match their corresponding targeted populations with those eligible individuals who reported to have received cash support from government assistance, NGOs or development organizations.

To illustrate our approach, consider families with children attending primary school, who reported to have received government assistance. In those cases, we assume that these families were likely to have received the school stipend programme provided by the Ministry of Education. As observed in Table 4, we estimate that only about 13 percent of the targeted population received the school stipend programme. Similarly, for families with children attending primary and middle (or secondary) education who reported having received assistance from development organisations, we assume they were recipients of the school feeding programme funded by the WFP or UNICEF. Based on our estimates, about 6 percent of the targeted population received a hot meal at a publicly funded school (see Table 4).

For the case of families with small children up to the age of two who reported to have received government assistance, we estimate that 205,765 children (approximately 20 percent of the targeted population) may have benefited from the Maternal and Child Health Voucher Scheme (MCHVS), which is implemented by the Ministry of Health and Sports. Finally, we assume that people living with disabilities and also those aged 65 and above, who reported to receive government assistance, were likely to be recipients of the Allowance for People with Disabilities programme and the non-contributory social pension, respectively, and which based on our calculations represent about 10 and 7 percent of the corresponding targeted populations (see Table 4).

Table 4. Targeted groups of transfer programmes by relevant non-labour income component

Target population	All	Those who receive		
		Government assistance	NGOs or Development Organizations	Pension payments 1/
Early childhood				
# children at most 1	1,359,391	126,030	54,095	53,544
# children aged 2	778,609	79,735	30,072	17,400
# children aged 3	767,033	62,149	16,774	22,707
# children aged 4	816,937	82,811	19,015	27,714
# children aged 5	806,535	86,615	22,351	17,367
School age				
# children attending primary school	4,663,226	634,285	148,151	125,939
# children attending middle school	3,073,534	338,396	85,321	113,703
# children attending high school	1,510,969	131,175	31,461	85,752
Working Age				
# Workers between 15 -59	20,203,815	1,588,358	459,076	830,363
# Working women 15-59	9,188,722	677,996	192,443	431,970
# Women	25,099,166	2,104,434	625,858	1,390,029
Elderly				
# persons at least 60	5,359,212	352,634	117,534	733,863
# persons at least 65	3,499,130	240,664	72,006	522,802
# elderly people over the age of 85	77,999	9,692	2,536	10,745
Allowance for People with Disabilities				
# disabled persons <65	822,957	82,313	25,146	50,156
# disabled in poverty	5,063,756	482,323	156,914	95,759

1/ Payments from the Civil Service Pension Scheme
Source: authors' calculations, based on the MLCS-2017

In the absence of accurate data on coverage of transfer programmes, our approach is probably the best option to get rough approximations of the actual number of beneficiaries of social protection policies in Myanmar. Therefore, the poverty and inequality reducing estimates of transfer programmes presented in Section 4 should be treated with caution and probably as upper-bound estimates of the true impacts of these policies.

4. Results

4.1. Poverty targeting and poverty reducing effects of welfare benefits

We begin by looking at the share of the population that benefit from existing social protection programmes, given the current objectives and design features of these policies, and the poverty impacts that each of these programmes can have on the targeted populations as well as the country as a whole. To do so, we follow equation (1) and adopt the World Bank's poverty lines that set different income thresholds needed to satisfy a minimum standard of living.[6]

[6] The first poverty line is set at US$1.90 per capita a day adjusted by the 2011 purchasing power parity, and captures those living at extreme levels of deprivations. The second poverty line is set at US$3.20 a day and is a closer approximation to national poverty lines derived from lower middle-income countries such as Myanmar.

Table 5 presents the results. Overall, we find low levels of coverage of social protection programmes, each with varying degrees of poverty reducing effects within the targeted groups and the entire population. While programmes such as the Civil Service Pension Scheme, the Insurance Against Sickness and Maternity leave benefits that form part of the social insurance system provide protection to approximately 4%, 8% and 6% of the population, respectively, they nevertheless have a larger coverage levels than social assistance programmes such as the School Stipend Programme, School Feeding Programme, Maternal and Child Health Voucher Scheme, or the Social Pension, which provide negligible levels of protection, which are in the order of 0.01%, 1.2%, 2.2%, and 0.02%, respectively.

Interestingly, despite such modest levels of coverage, social protection programmes, and in particular social assistance policies, contribute to alleviating poverty of the targeted population when we consider the US$1.90 a day poverty line, although this effect is diluted when we consider higher thresholds of deprivation and also the entire population of the country. Take the case of the School Stipend Programme and the Maternal and Child Health Voucher Scheme when focusing on the US$1.90 a day poverty line. The poverty reducing effects of these programmes among the targeted populations are in the order of 24.8% and 23.7%, respectively. However, these effects go down close to zero when we consider the headcount ratio of the entire population, reflecting the limited scale and coverage of these programmes. Results also show important heterogeneous levels of coverage, and thus poverty reducing effects of welfare benefits between urban and rural areas, and across regions and states. To illustrate, the poverty reducing effects among the targeted populations of the School Stipend and the Cash for Work programme are driven entirely by beneficiaries living in rural areas, while the Maternal and Child Health Voucher and the Allowance for People with Disabilities report a more equally distributed effects between rural and urban areas (see Table 5).

The small scale of the social protection system in Myanmar also means that the coverage rates and poverty reducing effects are markedly asymmetrical across the country. Taking as reference point the Maternal and Child Health Voucher scheme, which is the largest social assistance programme in the country, we find that the share of the population covered by the programme is in general very low, ranging from approximately 10% in Bago and 5% in Chin and Rakhine, to just 1% in Kachin, Kayah, Sagaing, Tanintharyi, Ayeyarwady, Nay Pyi Taw. Other states such as Magway and Mon show negligible levels of coverage (below 1%), while in Kayin, Mandalay, Yangon, and Shan, we could not find in the data presence of the scheme (see Table A.1 in the on-line Appendix).

Substantial regional differences are also observed when we look at the share of population covered by the Civil Service Pension, which is the largest social insurance scheme in the country. The fragmented and unequal access to social insurance and social assistance programmes, as well as the diversity of design features of these policies, and the distinct characteristics of the targeted populations leads to modest, and markedly unequal poverty reducing effects of these programmes at subnational level.

Finally, the third poverty line is set at US$5.50 a day and captures levels of moderate deprivations more closely aligned to national poverty lines of upper middle-income countries.

Table 5. Poverty targeting and poverty impacts of transfer programmes

Component(s)	National				Rural				Urban			
	Population Share	***FGT index***	***Impact on Group With Component >0***	***Impact on population***	***Population Share***	***FGT index***	***Impact on Group With Component >0***	***Impact on population***	***Population Share***	***FGT index***	***Impact on Group With Component >0***	***Impact on population***
Poverty line: $1.9 per day												
School Stipend Programme	0.0014	0.9756	-0.2487	-0.0003	0.0019	0.9751	-0.3394	-0.0007	n.a.	n.a.	n.a.	n.a.
	0.0005	*0.0229*	*0.1720*	*0.0003*	*0.0007*	*0.0235*	*0.2219*	*0.0005*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
School Feeding Programme	0.0124	0.4462	-0.2378	-0.0030	0.0165	0.4625	-0.2408	-0.0040	0.0024	0.1711	-0.1021	-0.0002
	0.0014	*0.0594*	*0.0470*	*0.0007*	*0.0020*	*0.0619*	*0.0490*	*0.0010*	*0.0008*	*0.0727*	*0.0427*	*0.0001*
Maternal and Child Health Voucher Scheme	0.0225	0.4299	-0.2029	-0.0046	0.0281	0.4392	-0.1938	-0.0055	0.0084	0.3533	-0.2397	-0.0020
	0.0034	*0.0751*	*0.0430*	*0.0012*	*0.0047*	*0.0827*	*0.0462*	*0.0016*	*0.0023*	*0.1436*	*0.0656*	*0.0009*
Allowance for People with Disabilities Programme	0.0097	0.3564	-0.1967	-0.0019	0.0124	0.3444	-0.1988	-0.0025	0.0028	0.4899	-0.1849	-0.0005
	0.0015	*0.0807*	*0.0505*	*0.0006*	*0.0021*	*0.0862*	*0.0542*	*0.0008*	*0.0010*	*0.1845*	*0.0637*	*0.0003*
Social Pension people aged 85+	0.0020	0.0000	0.0000	0.0000	n.a.	n.a.	n.a.	n.a.	0.0022	0.0000	0.0000	0.0000
	0.0013	*0.0000*	*0.0000*	*0.0000*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*0.0011*	*0.0000*	*0.0000*	*0.0000*
Cash for Work	0.0009	0.1775	-0.0382	0.0000	0.0009	0.2489	-0.0438	0.0000	n.a.	n.a.	n.a.	n.a.
	0.0004	*0.1654*	*0.0213*	*0.0000*	*0.0005*	*0.2228*	*0.0228*	*0.0000*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
Civil Service Pension Scheme (age 60+)	0.0439	0.0000	-0.0049	-0.0002	0.0185	0.0000	-0.0055	-0.0001	n.a.	n.a.	n.a.	n.a.
	0.0036	*0.0000*	*0.0015*	*0.0001*	*0.0030*	*0.0000*	*0.0027*	*0.0001*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
Insurance Against Sickness	0.0863	0.2885	-0.1730	-0.0149	0.1065	0.2987	-0.1753	-0.0187	0.0360	0.2135	-0.1184	-0.0043
	0.0046	*0.0251*	*0.0126*	*0.0014*	*0.0061*	*0.0276*	*0.0134*	*0.0018*	*0.0042*	*0.0537*	*0.0189*	*0.0009*
Maternity leave	0.0623	0.2390	-0.1711	-0.0107	0.0765	0.2462	-0.1717	-0.0131	0.0271	0.1884	-0.0932	-0.0025
	0.0042	*0.0299*	*0.0148*	*0.0012*	*0.0056*	*0.0332*	*0.0154*	*0.0015*	*0.0037*	*0.0588*	*0.0163*	*0.0006*
Poverty line: $3.2 per day												
School Stipend Programme	0.0014	0.9756	-0.0005	0.0000	0.0019	0.9751	-0.0013	0.0000	n.a.	n.a.	n.a.	n.a.
	0.0005	*0.0229*	*0.0005*	*0.0000*	*0.0007*	*0.0235*	*0.0013*	*0.0000*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
School Feeding Programme	0.0124	0.6345	-0.1264	-0.0016	0.0165	0.6517	-0.1296	-0.0021	0.0024	0.3445	-0.0597	-0.0001
	0.0014	*0.0536*	*0.0373*	*0.0005*	*0.0020*	*0.0553*	*0.0392*	*0.0007*	*0.0008*	*0.1254*	*0.0251*	*0.0001*
Maternal and Child Health Voucher Scheme	0.0225	0.6037	-0.0941	-0.0021	0.0281	0.6046	-0.0986	-0.0028	0.0084	0.5957	-0.0850	-0.0007
	0.0034	*0.0804*	*0.0225*	*0.0005*	*0.0047*	*0.0888*	*0.0251*	*0.0007*	*0.0023*	*0.1284*	*0.0274*	*0.0003*
Allowance for People with Disabilities Programme	0.0097	0.5844	-0.1169	-0.0011	0.0124	0.5872	-0.1171	-0.0015	0.0028	0.5528	-0.1006	-0.0003
	0.0015	*0.0752*	*0.0376*	*0.0004*	*0.0021*	*0.0804*	*0.0399*	*0.0005*	*0.0010*	*0.1741*	*0.0704*	*0.0002*

Social Pension people aged 85+	0.0020	0.0286	0.0000	0.0000	n.a.	n.a.	n.a.	n.a.	0.0022	0.0929	0.0000	0.0000
	0.0013	*0.0270*	*0.0000*	*0.0000*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*0.0011*	*0.0777*	*0.0000*	*0.0000*
Cash for Work	0.0009	0.1926	-0.0385	0.0000	0.0009	0.2701	-0.0439	0.0000	n.a.	n.a.	n.a.	n.a.
	0.0004	*0.1668*	*0.0203*	*0.0000*	*0.0005*	*0.2248*	*0.0223*	*0.0000*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
Civil Service Pension Scheme (age 60+)	0.0439	0.0000	-0.0354	-0.0016	0.0185	0.0000	-0.0411	-0.0008	n.a.	n.a.	n.a.	n.a.
	0.0036	*0.0000*	*0.0079*	*0.0004*	*0.0030*	*0.0000*	*0.0141*	*0.0003*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
Insurance Against Sickness	0.0863	0.4776	-0.1178	-0.0102	0.1065	0.4919	-0.1218	-0.0130	0.0360	0.3718	-0.0918	-0.0033
	0.0046	*0.0278*	*0.0091*	*0.0009*	*0.0061*	*0.0306*	*0.0098*	*0.0012*	*0.0042*	*0.0600*	*0.0137*	*0.0006*
Maternity leave	0.0623	0.4530	-0.1188	-0.0074	0.0765	0.4692	-0.1224	-0.0094	0.0271	0.3391	-0.0875	-0.0024
	0.0042	*0.0347*	*0.0104*	*0.0007*	*0.0056*	*0.0386*	*0.0110*	*0.0010*	*0.0037*	*0.0689*	*0.0136*	*0.0005*
Poverty line: $5.5 per day												
School Stipend Programme	0.0014	0.9970	0.0000	0.0000	0.0019	0.9969	0.0000	0.0000	n.a.	n.a.	n.a.	n.a.
	0.0005	*0.0032*	*0.0000*	*0.0000*	*0.0007*	*0.0033*	*0.0000*	*0.0000*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
School Feeding Programme	0.0124	0.7901	-0.0384	-0.0005	0.0165	0.8160	-0.0390	-0.0006	0.0024	0.3537	-0.0325	-0.0001
	0.0014	*0.0418*	*0.0132*	*0.0002*	*0.0020*	*0.0415*	*0.0138*	*0.0002*	*0.0008*	*0.1270*	*0.0148*	*0.0000*
Maternal and Child Health Voucher Scheme	0.0225	0.7238	-0.0266	-0.0006	0.0281	0.7325	-0.0275	-0.0008	0.0084	0.6510	-0.0252	-0.0002
	0.0034	*0.0850*	*0.0089*	*0.0002*	*0.0047*	*0.0947*	*0.0098*	*0.0003*	*0.0023*	*0.1232*	*0.0153*	*0.0001*
Allowance for People with Disabilities Programme	0.0097	0.7079	-0.0561	-0.0005	0.0124	0.7114	-0.0536	-0.0007	0.0028	0.6694	-0.0787	-0.0002
	0.0015	*0.0651*	*0.0260*	*0.0003*	*0.0021*	*0.0696*	*0.0277*	*0.0004*	*0.0010*	*0.1465*	*0.0509*	*0.0001*
Social Pension people aged 85+	0.0020	0.8974	0.0000	0.0000	n.a.	n.a.	n.a.	n.a.	0.0022	0.8280	0.0000	0.0000
	0.0013	*0.0900*	*0.0000*	*0.0000*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*0.0011*	*0.1586*	*0.0000*	*0.0000*
Cash for Work	0.0009	0.3037	-0.0322	0.0000	0.0009	0.4258	-0.0375	0.0000	n.a.	n.a.	n.a.	n.a.
	0.0004	*0.1948*	*0.0179*	*0.0000*	*0.0005*	*0.2591*	*0.0195*	*0.0000*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
Civil Service Pension Scheme (age 60+)	0.0439	0.2014	-0.0840	-0.0037	0.0185	0.2647	-0.0945	-0.0018	0.1072	0.1741	-0.0761	-0.0082
	0.0036	*0.0372*	*0.0145*	*0.0008*	*0.0030*	*0.0858*	*0.0276*	*0.0006*	*0.0097*	*0.0366*	*0.0142*	*0.0018*
Insurance Against Sickness	0.0863	0.6351	-0.0418	-0.0036	0.1065	0.6525	-0.0424	-0.0045	0.0360	0.5066	-0.0449	-0.0016
	0.0046	*0.0283*	*0.0051*	*0.0004*	*0.0061*	*0.0313*	*0.0055*	*0.0006*	*0.0042*	*0.0594*	*0.0084*	*0.0003*
Maternity leave	0.0623	0.5886	-0.0399	-0.0025	0.0765	0.6035	-0.0395	-0.0030	0.0271	0.4836	-0.0538	-0.0015
	0.0042	*0.0358*	*0.0057*	*0.0004*	*0.0056*	*0.0400*	*0.0061*	*0.0005*	*0.0037*	*0.0689*	*0.0090*	*0.0003*

Source: authors' calculations, based on the MLCS-2017
Standard errors are in italics.

4.2. Decomposition of poverty and inequality reducing effects of social insurance and social assistance programmes

While our results so far show that several transfer programmes contribute modestly to poverty reduction of the targeted population, we still do not know the extent to which the absolute contribution of these programmes lead to reductions in aggregate poverty and inequality levels in the country. This issue is important as the direct beneficiaries of specific programmes are located at different points of the income distribution. Since social assistance programmes target poor and vulnerable populations, we expect a priori, that these programmes will have a negative absolute contribution to the national poverty headcount ratio, and a negative absolute contribution to the national Gini index, although the magnitude of these effects should be constrained by the limited scale of these programmes. Similarly, since social insurance is mainly accessible to formal workers, whose education and income levels are on average above the national mean, and certainly well above those below the poverty line, we expect to see a marginal absolute contribution to the poverty headcount ratios, but a positive (not negative) absolute contribution to the Gini index.

To address these concerns, we follow equation (2) and (3) to decompose the poverty and inequality reducing contributions of social insurance and social assistance programmes in Myanmar relative to other sources of household income. We present the results in Table 6 and Table 7.

We focus first on decomposition of the FGT index in Table 6. Results indicate that while both social insurance schemes and several social assistance programmes contribute to alleviate poverty at national level, as well as in rural and urban areas, the effects of these programmes are very small—given the limited coverage of these programmes. The Civil Service Pension Scheme is the programme that has the largest relative contribution to poverty reduction among all social insurance schemes, with a poverty reducing effect of 0.71 percent when considering the US$1.90 a day poverty line at national level. As expected, the Civil Service Pension Scheme has a larger effect on poverty reduction in urban areas, given that the pension scheme only covers civil servants who are proportionally concentrated more in urban areas. In the case of social assistance programmes, most programmes have negligible effects on poverty reduction, with the Maternal and Child Health Voucher Scheme observing the largest, although very small, effect at the national level (about 0.03% reduction in the poverty headcount index), which is driven primarily by women living in rural areas. We also find significant regional variation in terms of poverty effects of social assistance programmes, with Kachin, Kayah, Chin, Rakhine, and Mandalay reporting the most significant poverty impacts, while Kayin, Sagaing, Manway, Bago, Tanintharyi and Nay Pyi Taw observing null poverty effects due to very limited or absence coverage.

The decomposition analysis of the FGT index shows that the overall contribution of both social insurance and social assistance programmes to poverty reduction is very small relative to other sources of household income, such as salaries (28% contribution), remittances (8%), and especially incomes from agriculture, livestock, aquaculture and other non-farm businesses (61%). While evidence shows that the current system of social protection in Myanmar has very limited effects on poverty reduction, we still do not know the contribution of these welfare benefits to reducing income inequality in the country.

Table 6. Decomposition of the FGT index by income sources, based on the Shapley value

	National			Rural			Urban		
	Income share	**Absolute contribution**	**Relative contribution**	**Income share**	**Absolute contribution**	**Relative contribution**	**Income share**	**Absolute contribution**	**Relative contribution**
Poverty line: $1.9									
Salaries	0.1072	-0.2048	0.2800	0.0923	-0.1520	0.2257	0.1232	-0.3362	0.3841
School Stipend Programme	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
School Feeding Programme	0.0001	-0.0001	0.0002	0.0001	-0.0002	0.0002	0.0000	-0.0001	0.0001
Maternal and Child Health Voucher Scheme	0.0001	-0.0003	0.0003	0.0002	-0.0004	0.0005	0.0000	0.0000	0.0000
Allowance for People with Disabilities Programme	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Social Pension people aged 85+	0.0001	0.0000	0.0001	0.0000	0.0000	0.0000	0.0001	-0.0001	0.0001
Cash for Work	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Civil Service Pension Scheme (age 60+)	0.0037	-0.0052	0.0071	0.0020	-0.0023	0.0034	0.0056	-0.0125	0.0143
Insurance Against Sickness	0.0004	-0.0010	0.0014	0.0007	-0.0013	0.0020	0.0001	-0.0002	0.0002
Maternity leave	0.0003	-0.0008	0.0012	0.0005	-0.0011	0.0017	0.0001	-0.0001	0.0002
Assistance from private donors	0.0033	-0.0055	0.0076	0.0043	-0.0052	0.0077	0.0023	-0.0064	0.0073
Interest from savings deposits	0.0090	-0.0050	0.0069	0.0039	-0.0023	0.0035	0.0145	-0.0117	0.0134
Remittances	0.0329	-0.0596	0.0814	0.0390	-0.0637	0.0946	0.0264	-0.0492	0.0562
Other	0.8428	-0.4490	0.6139	0.8568	-0.4452	0.6607	0.8278	-0.4587	0.5241
Total	1.0000	-0.7315	1.0000	1.0000	-0.6738	1.0000	1.0000	-0.8752	1.0000
Poverty line: $3.2									
Salaries	0.1072	-0.1487	0.2517	0.0923	-0.0986	0.1906	0.1232	-0.2733	0.3537
School Stipend Programme	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
School Feeding Programme	0.0001	-0.0001	0.0001	0.0001	-0.0001	0.0002	0.0000	0.0000	0.0000
Maternal and Child Health Voucher Scheme	0.0001	-0.0002	0.0003	0.0002	-0.0002	0.0004	0.0000	0.0000	0.0000
Allowance for People with Disabilities Programme	0.0000	-0.0001	0.0001	0.0000	-0.0001	0.0001	0.0000	0.0000	0.0000
Social Pension people aged 85+	0.0001	-0.0001	0.0001	0.0000	0.0000	0.0000	0.0001	-0.0001	0.0002
Cash for Work	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Civil Service Pension Scheme (age 60+)	0.0037	-0.0040	0.0068	0.0020	-0.0017	0.0032	0.0056	-0.0098	0.0126
Insurance Against Sickness	0.0004	-0.0005	0.0009	0.0007	-0.0007	0.0013	0.0001	-0.0001	0.0002
Maternity leave	0.0003	-0.0004	0.0006	0.0005	-0.0004	0.0009	0.0001	-0.0001	0.0002
Assistance from private donors	0.0033	-0.0032	0.0054	0.0043	-0.0030	0.0058	0.0023	-0.0036	0.0047
Interest from savings deposits	0.0090	-0.0045	0.0075	0.0039	-0.0019	0.0037	0.0145	-0.0107	0.0139
Remittances	0.0329	-0.0429	0.0726	0.0390	-0.0443	0.0855	0.0264	-0.0394	0.0510
Other	0.8428	-0.3863	0.6540	0.8568	-0.3665	0.7082	0.8278	-0.4355	0.5636
Total	1.0000	-0.5907	1.0000	1.0000	-0.5176	1.0000	1.0000	-0.7727	1.0000

Poverty line: $5.5									
Salaries	0.1072	-0.0950	0.2317	0.0923	-0.0539	0.1634	0.1232	-0.1973	0.3237
School Stipend Programme	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
School Feeding Programme	0.0001	0.0000	0.0001	0.0001	0.0000	0.0001	0.0000	0.0000	0.0000
Maternal and Child Health Voucher Scheme	0.0001	-0.0001	0.0003	0.0002	-0.0002	0.0005	0.0000	0.0000	0.0000
Allowance for People with Disabilities Programme	0.0000	-0.0001	0.0002	0.0000	-0.0001	0.0002	0.0000	0.0000	0.0000
Social Pension people aged 85+	0.0001	-0.0001	0.0001	0.0000	0.0000	0.0001	0.0001	-0.0001	0.0002
Cash for Work	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Civil Service Pension Scheme (age 60+)	0.0037	-0.0028	0.0067	0.0020	-0.0008	0.0023	0.0056	-0.0077	0.0127
Insurance Against Sickness	0.0004	-0.0003	0.0008	0.0007	-0.0004	0.0013	0.0001	-0.0001	0.0001
Maternity leave	0.0003	-0.0003	0.0007	0.0005	-0.0004	0.0011	0.0001	-0.0001	0.0001
Assistance from private donors	0.0033	-0.0024	0.0058	0.0043	-0.0022	0.0067	0.0023	-0.0028	0.0045
Interest from savings deposits	0.0090	-0.0040	0.0097	0.0039	-0.0015	0.0044	0.0145	-0.0103	0.0169
Remittances	0.0329	-0.0227	0.0554	0.0390	-0.0208	0.0629	0.0264	-0.0275	0.0452
Other	0.8428	-0.2824	0.6886	0.8568	-0.2498	0.7569	0.8278	-0.3635	0.5965
Total	1.0000	-0.4100	1.0000	1.0000	-0.3300	1.0000	1.0000	-0.6094	1.0000

Source: authors' calculations, based on the MLCS-2017

Note: Other includes income from renting/ sharecropping a parcel, value of crop sold unprocessed and processed, value of livestock sold live or slaughter, processed or by products, value of livestock for own consumption, value of the aquaculture products, value of selling fish, revenues from non-farm business and other income sources.

Table 7. Decomposition of the Gini index by income sources, based on Lerman and Yitzhaki (1985)'s approach

	National					Rural					Urban				
Sources	**Income share**	**Gini correlation**	**Gini index**	**Absolute contribution**	**Relative contribution**	**Income share**	**Gini correlation**	**Gini index**	**Absolute contribution**	**Relative contribution**	**Income share**	**Gini correlation**	**Gini index**	**Absolute contribution**	**Relative contribution**
Salaries	0.107	0.547	0.785	0.045996	0.058718	0.092	0.475	0.796	0.034908	0.045375	0.123	0.468	0.703	0.040543	0.052739
	0.010	*0.017*	*0.006*	*0.005268*	*0.007924*	*0.013*	*0.029*	*0.008*	*0.006228*	*0.009576*	*0.016*	*0.028*	*0.011*	*0.006702*	*0.010103*
School Stipend Programme	0.000	-0.488	0.999	-0.000001	-0.000001	0.000	-0.386	0.999	-0.000002	-0.000002	0.000	-0.841	1.000	-0.000000	-0.000000
	0.000	*0.062*	*0.000*	*0.000001*	*0.000001*	*0.000*	*0.068*	*0.000*	*0.000001*	*0.000001*	*0.000*	*0.044*	*0.000*	*0.000000*	*0.000000*
School Feeding Programme	0.000	-0.251	0.995	-0.000015	-0.000020	0.000	-0.174	0.993	-0.000019	-0.000024	0.000	-0.198	0.999	-0.000002	-0.000003
	0.000	*0.064*	*0.001*	*0.000006*	*0.000007*	*0.000*	*0.071*	*0.001*	*0.000009*	*0.000012*	*0.000*	*0.195*	*0.000*	*0.000003*	*0.000003*
Maternal and Child Health Voucher Scheme	0.000	0.068	0.996	0.000008	0.000010	0.000	0.198	0.996	0.000042	0.000055	0.000	-0.310	0.996	-0.000001	-0.000001
	0.000	*0.107*	*0.001*	*0.000014*	*0.000018*	*0.000*	*0.115*	*0.001*	*0.000039*	*0.000051*	*0.000*	*0.113*	*0.002*	*0.000001*	*0.000001*
Allowance for People with Disabilities Programme	0.000	0.094	0.997	0.000002	0.000003	0.000	0.170	0.996	0.000008	0.000010	0.000	0.098	0.999	0.000001	0.000001
	0.000	*0.102*	*0.001*	*0.000003*	*0.000004*	*0.000*	*0.105*	*0.001*	*0.000005*	*0.000007*	*0.000*	*0.199*	*0.000*	*0.000001*	*0.000002*
Social Pension people aged 85+	0.000	0.154	0.999	0.000008	0.000011	0.000	0.288	0.998	0.000014	0.000018	0.000	-0.206	0.999	-0.000013	-0.000016
	0.000	*0.051*	*0.001*	*0.000005*	*0.000006*	*0.000*	*0.042*	*0.002*	*0.000010*	*0.000014*	*0.000*	*0.086*	*0.001*	*0.000006*	*0.000008*
Cash for Work	0.000	-0.213	1.000	-0.000000	-0.000000	0.000	-0.256	1.000	-0.000000	-0.000000	0.000	0.540	0.999	0.000000	0.000000
	0.000	*0.306*	*0.000*	*0.000000*	*0.000000*	*0.000*	*0.320*	*0.000*	*0.000001*	*0.000001*	*0.000*	*0.101*	*0.001*	*0.000000*	*0.000000*
Civil Service Pension Scheme (age 60+)	0.004	0.545	0.975	0.001992	0.002543	0.002	0.608	0.989	0.001227	0.001595	0.006	0.300	0.939	0.001573	0.002046
	0.000	*0.022*	*0.002*	*0.000248*	*0.000366*	*0.000*	*0.032*	*0.002*	*0.000245*	*0.000367*	*0.001*	*0.037*	*0.007*	*0.000295*	*0.000432*
Insurance Against Sickness	0.000	0.168	0.983	0.000064	0.000082	0.001	0.253	0.979	0.000164	0.000213	0.000	0.210	0.994	0.000019	0.000025
	0.000	*0.050*	*0.002*	*0.000027*	*0.000035*	*0.000*	*0.059*	*0.003*	*0.000065*	*0.000088*	*0.000*	*0.098*	*0.001*	*0.000012*	*0.000016*
Maternity leave	0.000	0.222	0.989	0.000064	0.000082	0.000	0.310	0.986	0.000152	0.000198	0.000	0.242	0.996	0.000017	0.000022
	0.000	*0.054*	*0.001*	*0.000024*	*0.000031*	*0.000*	*0.062*	*0.002*	*0.000059*	*0.000079*	*0.000*	*0.119*	*0.001*	*0.000011*	*0.000014*
Assistance from private donors	0.003	0.342	0.974	0.001111	0.001418	0.004	0.398	0.975	0.001678	0.002181	0.002	0.201	0.973	0.000442	0.000575
	0.000	*0.066*	*0.003*	*0.000346*	*0.000453*	*0.001*	*0.086*	*0.004*	*0.000658*	*0.000889*	*0.000*	*0.087*	*0.004*	*0.000238*	*0.000314*
Interest from savings deposits	0.009	0.862	0.995	0.007719	0.009854	0.004	0.826	0.996	0.003204	0.004164	0.014	0.808	0.991	0.011593	0.015080
	0.004	*0.057*	*0.002*	*0.004144*	*0.005329*	*0.001*	*0.052*	*0.001*	*0.001378*	*0.001848*	*0.009*	*0.097*	*0.003*	*0.008242*	*0.010805*

Remittances	0.033	0.522	0.927	0.015944	0.020354	0.039	0.503	0.914	0.017929	0.023304	0.026	0.565	0.946	0.014105	0.018348
	0.004	*0.036*	*0.005*	*0.002693*	*0.003723*	*0.006*	*0.022*	*0.004*	*0.002981*	*0.004683*	*0.005*	*0.075*	*0.009*	*0.004620*	*0.006249*
Other	0.843	0.969	0.870	0.710447	0.906948	0.857	0.971	0.854	0.710029	0.922913	0.828	0.967	0.875	0.700466	0.911185
	0.015	*0.004*	*0.014*	*0.026333*	*0.012943*	*0.020*	*0.006*	*0.023*	*0.039389*	*0.014965*	*0.023*	*0.006*	*0.017*	*0.035631*	*0.018932*
Total	1.000	1.000	0.783	0.783338	1.000000	1.000	1.000	0.769	0.769335	1.000000	1.000	1.000	0.769	0.768742	1.000000
	0.000	*0.000*	*0.019*	*0.019169*	*0.000000*	*0.000*	*0.000*	*0.031*	*0.030970*	*0.000000*	*0.000*	*0.000*	*0.026*	*0.026261*	*0.000000*

Source: authors' calculations, based on the MLCS-2017

Standard errors are in italics.

Note: Other includes income from renting/ sharecropping a parcel, value of crop sold unprocessed and processed, value of livestock sold live or slaughter, processed or by products, value of livestock for own consumption, value of the aquaculture products, value of selling fish, revenues from non-farm business and other income sources.

Table 7 with the results of the decomposition of the Gini index by income sources, including social insurance and social assistance programmes, is based on the Lerman and Yitzhaki (1985) method.[7] Turning first to the contribution of social insurance schemes to the Gini index, we find that these programmes contribute positively to income inequality, with the Civil Service Pension Scheme having by far the most disequalising effect on the income distribution in Myanmar, with an absolute contribution of approximately 0.20% to the Gini index. In contrast, the School Feeding Programme, and the School Stipend programme observe equalizing, but very small, effects on the income distribution, with an absolute contribution to reducing the national Gini index in the order of -0.0015% and -0.0001%, respectively.

As in the case of poverty reduction, these equalizing effects are slightly driven by rural household that are more actively targeted by these programmes. Surprisingly, the Maternal and Child Health Voucher Scheme, the Allowance for People with Disabilities Programme, and the recently instituted Social Pension for people aged 85+ have a disequalising effect at national level, although the Maternal and Child Health Voucher Scheme and the Social Pension contribute to a marginal reduction in income inequality in urban areas. We also observe in Table A.4 and Table A.5 in the on-line Appendix, heterogeneous inequality effects of social insurance and social assistance programmes, reflecting the unequal scale and level of coverage of these policies across regions and estates of the country.

4.3. Benefit Incidence Analysis

So far, the decomposition analysis provides relevant information on the contribution of programmes that form part of the social protection system in Myanmar to the current *levels* of poverty and inequality in the country. In this section, we investigation the degree of progressivity (or regressivity) of welfare benefits given their current design features and targeting criteria (see Table 2). To do so, we follow equations (4) to (7) and conduct a benefit incidence analysis. Benefit incidence analysis (BIA) allows us to i) assess how effectively public spending on social insurance and social assistance targets the poor, according to the distribution of income, and ii) identify who effectively benefits from these programmes. Thus, BIA is tantamount to assessing the performance and effectiveness of the social protection system as a whole with respect to tackling poverty and inequality.

In Table 8 and Table 9 we present estimates of the share of the eligible population that receive social security or social assistance benefits, given the current programmatic rules, as well as the actual rate of participation in these programmes by income quintiles, respectively.

Results show that both social insurance schemes as well as social assistance programmes have a very low rate of participation among the targeted population, which ranges from just about 3% for the case of the School Feeding Programme to 18% for the Civil Service Pension Scheme. In addition they also provide very limited protection against poverty and vulnerabilities associated with the life cycle. Indeed, results show a small average of benefits that are provided to those who currently benefit from these programmes, which are measured in our estimates in terms of per capita US dollars a day at PPP of 2011 (see Table 10).

[7] We present in Table A.3 in the on-line Appendix, similar inequality decomposition results based on Araar (2006)'s method.

Table 8. Share of eligible population to transfer programmes by quintiles.

	Social Assistance						Social Insurance		
Groups	**School Stipend**	**School Feeding**	**Maternal and Child Health Voucher Scheme**	**Allowance for People with Disabilities**	**Social Pension people aged 85+**	**Cash for Work**	**Civil Service Pension Scheme (age 60+)**	**Insurance Against Sickness**	**Maternity leave**
Quintile 1	0.082	0.170	0.237	0.203	0.000	0.166	0.130	0.203	0.182
Quintile 2	0.146	0.346	0.252	0.283	0.000	0.020	0.155	0.276	0.296
Quintile 3	0.271	0.214	0.229	0.180	0.056	0.145	0.240	0.177	0.143
Quintile 4	0.320	0.138	0.156	0.165	0.047	0.134	0.275	0.175	0.180
Quintile 5	0.181	0.133	0.126	0.168	0.896	0.536	0.200	0.168	0.199
All	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Source: Authors' calculations, based on the MLCS-2017

Table 9. Rate of participation of transfer programmes by quintiles

	Social Assistance						Social Insurance		
Groups	**School Stipend**	**School Feeding**	**Maternal and Child Health Voucher Scheme**	**Allowance for People with Disabilities**	**Social Pension people aged 85+**	**Cash for Work**	**Civil Service Pension Scheme (age 60+)**	**Insurance Against Sickness**	**Maternity leave**
Quintile 1	0.014	0.024	0.121	0.127	0.000	0.056	0.117	0.088	0.075
Quintile 2	0.026	0.049	0.128	0.175	0.000	0.007	0.140	0.120	0.122
Quintile 3	0.048	0.030	0.116	0.113	0.024	0.045	0.217	0.077	0.060
Quintile 4	0.056	0.020	0.079	0.102	0.020	0.044	0.248	0.076	0.075
Quintile 5	0.032	0.019	0.064	0.104	0.381	0.179	0.179	0.073	0.083
Bottom 40%	0.040	0.073	0.249	0.302	0.000	0.063	0.257	0.208	0.197
Top 40%	0.088	0.039	0.143	0.206	0.401	0.223	0.427	0.149	0.158
All	0.035	0.029	0.102	0.124	0.085	0.067	0.180	0.087	0.083

Source: Authors' calculations, based on the MLCS-2017calculations

Table 10. Average benefits of transfer programmes at the level of current recipients of welfare benefits by quintiles
Estimates based on per capita US dollars a day at PPP of 2011

	Social Assistance						Social Insurance		
Groups	**School Stipend**	**School Feeding**	**Maternal and Child Health Voucher Scheme**	**Allowance for People with Disabilities**	**Social Pension people aged 85+**	**Cash for Work**	**Civil Service Pension Scheme (age 60+)**	**Insurance Against Sickness**	**Maternity leave**
Quintile 1	0.001	0.017	0.012	0.021	0.111	0.003	0.509	0.017	0.018
Quintile 2	0.001	0.017	0.012	0.021	0.111	0.003	0.509	0.017	0.018
Quintile 3	0.001	0.017	0.012	0.021	0.111	0.003	0.509	0.017	0.018
Quintile 4	0.001	0.017	0.012	0.021	0.111	0.003	0.509	0.017	0.018
Quintile 5	0.001	0.017	0.012	0.021	0.111	0.003	0.509	0.017	0.018
All	0.001	0.017	0.012	0.021	0.111	0.003	0.509	0.017	0.018

Source: Authors' calculations, based on the MLCS-2017calculations

Relevant to our analysis is the rate of participation across income quintiles, and in particular among those at the bottom 40% of the income distribution for the case of social assistance programmes that by design and policy objectives, focus on poor and vulnerable populations. Rates of participation provide important information about how effective welfare policies are at reaching the targeted population, and also provide information about the progressivity or regressivity of these programmes.

Starting with social insurance schemes, we find that while the rate of participation of the Civil Service Pension Scheme is clearly skewed towards the better off—with 43% of people in old age at the top two deciles benefiting from the contributory pension, vis-à-vis only 26% of those

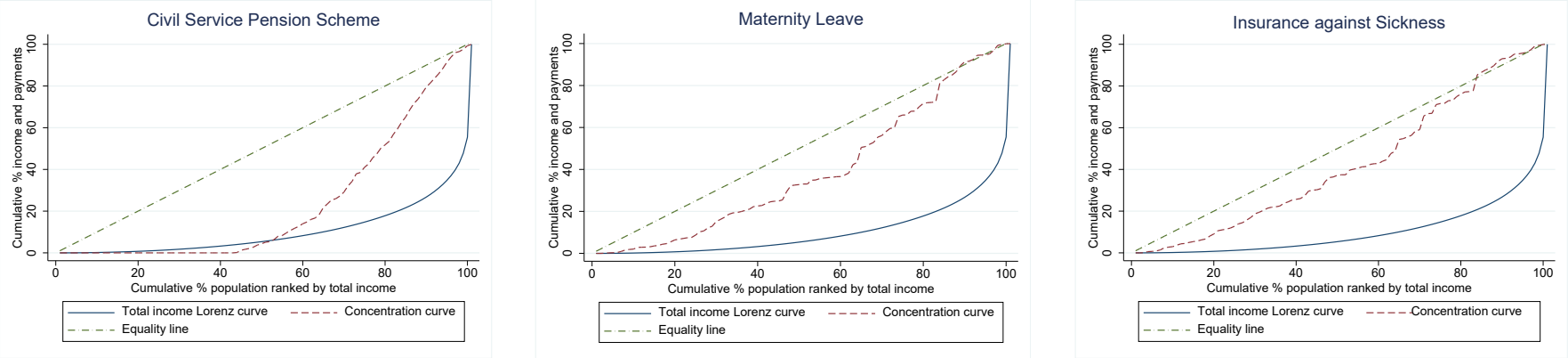
that are at the bottom 40%—other programmes such as Maternity Leave benefits and the Insurance Against Sickness are more equally distributed (see Table 9).

In the case of social assistance, results show a low rate of participation among all programmes, which confirm our previous findings regarding the limited scale of the social assistance system in Myanmar. Allowance for People with Disabilities and the Maternal and Child Health Voucher Scheme have the largest rates of participation among the poorest 40%, which are in the order of 30% and 25%, respectively. Conversely, the Social Pension shows the most regressive benefit incidence, with about 40% of the reported participation observed among the 40% richest elderly population. Other transfer programmes that focus on school age children such as the School Stipend Programme and the school Feeding Programme have a limited coverage, with only 4% and 7% of benefits going to the poorest 40%.

The disparity in the benefit incidence of the social protection system as a whole in Myanmar is graphically evident in Figure 1 and Figure 2, where we compare the concentration curves for social insurance and social assistance schemes, respectively. Concentration curves are obtained by plotting the cumulative distribution of welfare benefits on the y-axis against the cumulative distribution of the population ranked by income on the x-axis. The 45-degree diagonal captures the theoretically perfect equality in the distribution of welfare benefits, while the Lorenz curve measures the distribution of total income across the population. If the concentration curves lie above the diagonal of perfect equality, it would imply that households at the bottom of the income distribution are proportionally benefiting more from welfare benefits, either via social insurance or social assistance policies, than better off households. In this case, we can assert that the distribution of welfare benefits is *pro-poor,* i.e., progressive in absolute terms. In addition, if the concentration curves lie above the Lorenz curve, but below the diagonal of perfect equality, this indicates a *weak progressivity* of welfare programmes, relative to the distribution of income. In contrast, if the concentration curves are dominated by the Lorenz curve, welfare benefits are more *regressively* distributed than income.

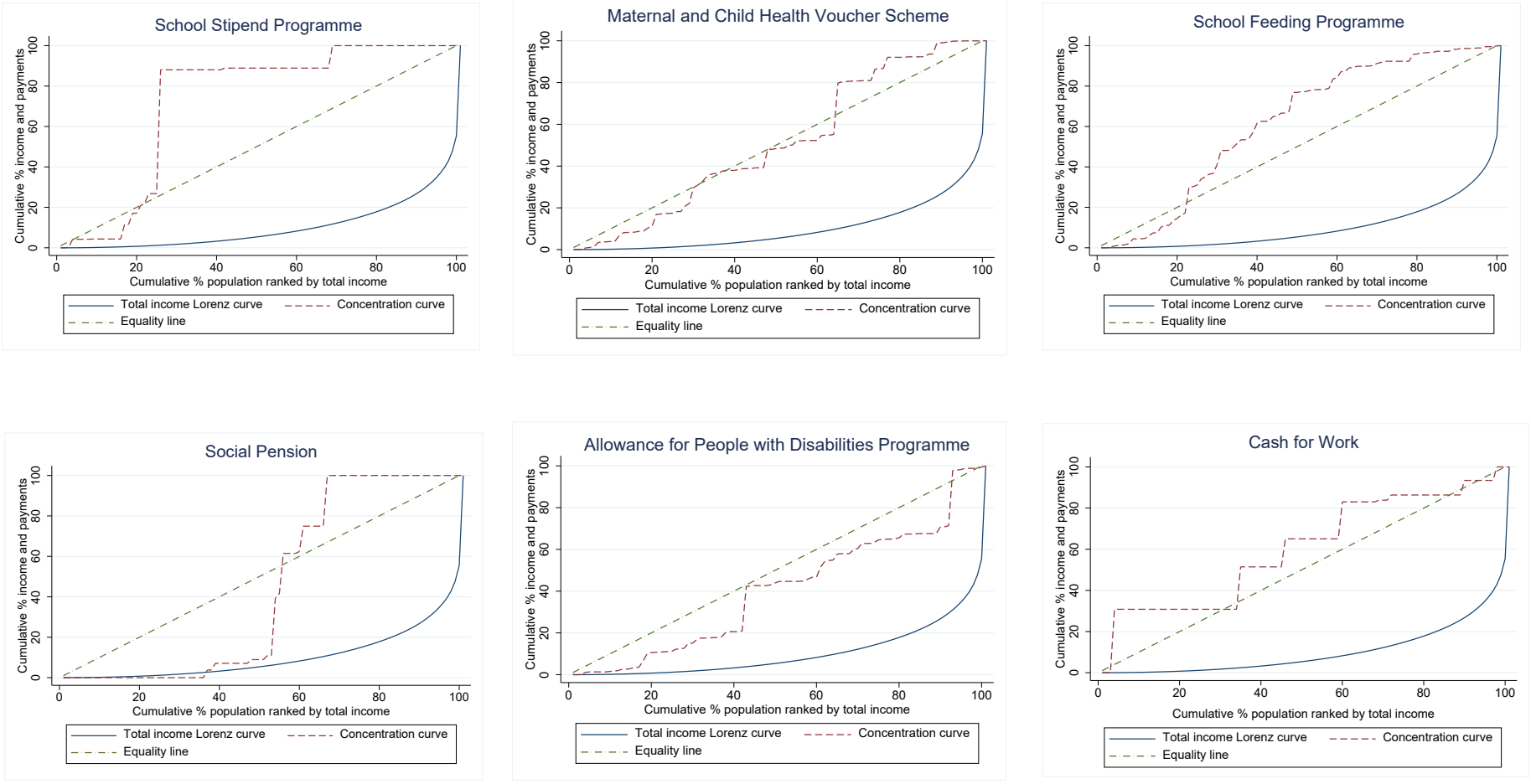
The concentration curves of social insurance schemes show a weak progressivity in Maternity Leave benefits and the Insurance against Sickness scheme, while the Civil Service Pension Scheme shows a regressive effect at the bottom 40% but becomes weakly progressive at the top quintiles. In the case of social assistance programmes, while some programmes such as the School Feeding Programme, the Maternal and Child Health Voucher Scheme and the Allowance for People with Disabilities exhibit weak progressivity, none of the programmes show a strictly pro-poor distribution of welfare benefits. In fact, the social pension shows a weak regressive redistribution with currently all beneficiaries coming from the riches 60% of the income distribution.

Figure 1. The Progressivity or Regressivity of Social Insurance



Source: authors' calculations, based on the MLCS-2017

Figure 2. The Progressivity or Regressivity of Social Assistance



Source: authors' calculations, based on the MLCS-2017

5. Simulation analysis

So far, our analysis reveals a heterogeneous, but limited poverty and inequality reducing effect of the social protection system as whole in Myanmar, which is constrained by the small, fragmented and unequal scale of social insurance and social assistance programmes. The small rate of coverage by welfare benefit policies means that even when programmes target by design the poor and vulnerable, as in the case of social assistance programmes, they achieve weak progressivity at best, but not pro-poor redistribution. We were therefore motivated to ask, what would happen to the rates of poverty and inequality if the government of Myanmar decided to scale up the existing social protection system, even under the programmatic rules of individual programmes in place? To address this question, we conducted a simulation exercise with two hypothetical scenarios: Scenario 1 assumes the adoption of a *universal* approach to scaling up the social protection system, which consists of covering all individuals in a particular population who are eligible to receive a flat-rate of welfare benefits according to the programmatic rules of individual programmes. A universal approach would be consistent with egalitarian principles embraced by the ILO and other UN agencies, and which are captured by the Social Protection Floors Recommendation, No. 202, adopted by 185 states in 2012.[8]

To illustrate our scenario 1 approach, in the area of social assistance, non-contributory schemes such as the School Feeding Programme, the Maternal and Child Health Voucher Scheme and the Social Pension, which currently have low levels of participation among the eligible population (see Table 9), would extend coverage to include, respectively, all children attending public preschool and primary schools, all women with small children aged 0-2 years, and all people aged 85 and older. We keep the current average level of benefits in the simulation exercise, which are US$10.9 and US$7.3 monthly for the Maternal and Child Health Voucher Scheme, and the Social Pension, respectively. For the case of the School Feeding Programme, we follow WFP (2016) and assume an average cost of US$0.25 to provide a daily school meal to preschool and primary school children (see Table 11).

Table 11. Criteria for simulation analysis

Programme	Simulation exercise
Social Assistance	
School Stipend Programme	Scenarios: 1) All children attending public schools receive the stipend under the current programmatic rules as reported in Table 2. 2) Children attending public schools from poor families receive the stipend under the current programmatic rules as reported in Table 2. Poverty defined by the three WB poverty lines.
School Feeding Programme	Scenarios: 1) All children attending public preschool and primary schools receive a hot meal. We follow WFP (2016) and assume an average cost of US$0.25 to provide a school meal every day to preschool and primary school children. 2) Children attending public preschool and primary schools from poor families receive hot meal. A poor child is defined as those below the WB poverty lines.

[8] The Social Protection Floors Recommendation, No. 202 is available at: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:3065524

Maternal and Child Health Voucher Scheme	Scenarios: 1) All women with children aged <2 receive the voucher, under the current programmatic rules as reported in Table 2. 2) Poor women with children aged <2 receive the voucher, under the current programmatic rules as reported in Table 2. Women in poverty as defined by the WB poverty lines
Allowance for People with Disabilities Programme	Scenarios: 1) All children and adults with disabilities receive the programme under the current programmatic rules as reported in Table 2. Children are considered those aged 0-17 as defined by Article 3(d) of the 2019 Myanmar Child Rights Law. 2) Poor children and adults with disabilities receive the programme under the current programmatic rules as reported in Table 2. Children are considered those aged 0-17 as defined by Article 3(d) of the 2019 Myanmar Child Rights Law. People in poverty as defined by the WB poverty lines.
Social Pension people aged 85+	Scenarios: 1) All people aged 85 and older receive the pension in amounts indicated by the current programmatic rules as reported in Table 2. 2) People aged 85 and older from poor families receive the pension in amounts indicated by the current programmatic rules as reported in Table 2. Those in poverty as defined by the WB poverty lines
Cash for Work	Scenarios: 1) All unemployed and unskilled working-age population receive the benefits, under the current programmatic rules as reported in Table 2. Unskilled workers are defined as those adults with no complete secondary education. 2) Poor and unemployed working-age population receive the benefits, under the current programmatic rules as reported in Table 2. Unskilled workers are defined as those adults with no complete secondary education. Those in poverty as defined by the WB poverty lines.
Social Insurance	
Civil Service Pension Scheme (age 60+)	Scenarios: 1) All adults aged 60 and older with incomes on the top 60% of the income distribution. The value of the pension is calculated as the 50% of the average wage of formal workers.
Social insurance against sickness	Scenarios: 1) All workers aged 15-59 who reported to be sick and employed in the formal sector. Transfers calculated as the 60% of the average salary of formal workers over a period of 26 weeks, given the current programmatic rules as reported in Table 2.
Maternity leave	Scenarios: 1) All women that reported to be employed in the formal sector with children aged <1. Transfers are calculated as the 66.7% of the average salary among women, as indicated under the current programmatic rules as reported in Table 2.

Source: Authors

In the case of contributory social insurance schemes, we assume that all workers aged 15-59, who reported to be sick and employed in the formal sector, or all women with infant children aged 0 to <1 and employed in the formal sector, receive the social insurance against sickness or maternity leave benefits, respectively, at the current level of entitlements (see Table 2). For

the particular case of the Civil Service Pension Scheme, since we do not observe in the MLCS-2017 survey whether certain members of the elderly population worked in the formal labour market in the past, we assume that all adults aged 60 and older with incomes on the top 60% of the income distribution receive the Civil Service Pension Scheme. We calculate the value of the pension as the 50% of the average wage of formal workers.

Scenario 2 assumes the adoption of a *poverty targeting* approach to scaling up social assistance programmes, consisting of focusing on the poorest members of specific populations. This approach would be consistent with utilitarian normative principles in the domain of welfare economics that suggest that under the law of diminishing marginal utility, any welfare benefit would produce the greatest welfare-enhancing effects if it is directed to the poorest (Arrow 1951; Sen 1970, 2011; Rawls 1971).

For the implementation of this second simulation exercise, we assume that only those individuals with an income below a minimum standard of living required to satisfy their basic needs and rights would be eligible to receive government support. We use the World Bank poverty lines to operationalise three alternative thresholds for the minimum standard of living. To illustrate our second approach, consider the same social assistance programmes outlined in scenario 1. However, in this case, the School Feeding Programme, the Maternal and Child Health Voucher Scheme and the Social Pension, would target children attending public schools from poor families, poor women with children aged 0-2, and people aged 85 and older with incomes below the reference poverty line, respectively, receiving welfare benefits at levels specified by the current programmatic rules (see Table 2).

For the purpose of this simulation exercise, we do not consider the possibility of inclusion and exclusion errors in the implementation of targeted policies, given that we are primarily interested in the potential poverty and redistributive effects of these policies in the presence of budgetary constraints. The simulation exercise does not capture either the potential behaviour responses to changes in eligibility conditions, which may affect labour supply and work choices. It does however provide important insights into the likely effects that a better integrated social protection system could have on poverty and inequality, and how progressive or regressive individual policy choices would be in light of possible policy reforms. We focus on a decomposition analysis of the poverty headcount and the Gini index under the two scenarios outlined above, as well as on a Benefit Incidence Analysis for targeted social assistance programmes. We present the results of the decomposition analysis in Table 12 and Table 13, whereas the results from the BIA are presented in Table 14 and Table 15. The more detailed results by urban and rural areas, as well as by regions and states are in on-line Appendix B.

5.1. Potential contribution of welfare benefits to reducing the poverty headcount index

Results in Table 12 show that taking a universal approach to expanding social insurance and social assistance programmes from current coverage levels would lead to sizable reducing effects in the FGT headcount index. For instance, providing coverage to all individuals eligible to receive the School Stipend Programme, the Maternal and Child Health Voucher or the Social Pension under the current programmatic rules and existing levels of benefits would contribute to a reduction of the national poverty rates (based on the World Bank US$1.90 a day poverty line) by approximately 4%, 2% and 1%, respectively, from practically null effects at the current levels of coverage. Universal coverage of contributory social insurance schemes such as the Civil Service Pension, and Maternity Leave benefits would generate substantially larger

poverty reducing effects among those eligible to receive these benefits, partly because social insurance schemes offer more generous entitlements than non-contributory programmes.

Results also indicate that expanding the system of social assistance under a poverty targeting approach would produce larger poverty reducing effects than universal approaches, irrespective of the design features of programmes. Distributing the School Stipend Programme to all poor children enrolled in public schools or providing the non-contributory Social Pension to the entire poor elderly population aged 85 and older would contribute to reducing the poverty headcount index based on the World Bank US$1.9 a day by approximately 6% and 2%, respectively. If the same welfare benefits were distributed to the same population subgroups but now expanding the coverage to include those living under US$3.2 a day, the poverty reducing effects of these programmes would augment to 7% and 2.5%, and then up to 9% and 3% if these programmes targeted these population groups living under US$5.5 a day.

The simulation estimates suggest that scaling up social assistance under targeting principles would be more effective at reducing the national poverty rates than adopting universal approaches, although the contribution of welfare-benefit programmes to poverty reduction would be concentrated in rural areas, where the effects are estimated to be as twice as large as those observed in urban areas (see Table B.2 in on-line Appendix B). Simulation results also show a significant regional variation in the potential absolute contribution of social assistance to poverty reduction across the country, with the Kayah, Kachin and Chin states observing the largest poverty reducing effects as the result of social assistance while the Yangon and Tanintharyi regions, and the Mon state reporting the smallest poverty reducing effects. Yet, even operating under the scenario of perfectly targeted programmes, with no exclusion and inclusion errors and marginal labour supply effects, the increase in coverage of the current system of social assistance would contribute to just one-third of the overall negative change in the poverty headcount, with income sources from agriculture, livestock, aquaculture and non-farm businesses being the main contributors to poverty reduction (see Table 12). This underscores the importance of strengthening the income generating capacity of the primary sectors for future poverty reduction efforts in Myanmar.

5.2. Potential contribution of welfare benefits to reducing the Gini index

We are also interested in estimating the absolute contribution of welfare benefits to the Gini index under possible universal or poverty targeting scenarios. We present the results based on the Lerman and Yitzhaki (1985) approach in Table 13.[9] We begin the discussion by looking at the contribution of social assistance and social insurance programmes to the Gini index under the assumption that all eligible populations receive the welfare benefits, irrespective of their level of initial income. We find that while social assistance programmes such as the School Stipend Programme, the School Feeding Programme and the Maternal and Child Health Voucher Scheme strengthen their equalising contribution to the income distribution, social insurance schemes reinforce substantially their disequalising effects. To illustrate, extending the Civil Service Pension and the Insurance Against Sickness Scheme from their current levels of coverage, would increase their absolute positive contribution to the Gini index from 0.20% and 0.0064% to 1.71% and 11.5%, respectively (see Table 13, and also Table B.8 and Table B.9 in on-line Appendix B).

[9] We also compute a decomposition of the Gini index based on Araar (2006)'s method. The results are presented in Table B.9 in on-line Appendix B.

Table 12. Decomposition of the FGT index by income sources, based on the Shapley value. Simulation estimates at the national level

Income sources	Universal approach			Targeting approach 1/			Targeting approach 2/			Targeting approach 3/		
	Income share	Absolute contribution	Relative contribution	Income share	Absolute contribution	Relative contribution	Income share	Absolute contribution	Relative contribution	Income share	Absolute contribution	Relative contribution
Poverty line: $1.9												
Salaries	0.0305	-0.0786	0.0789	0.1035	-0.2245	0.2442	0.1015	-0.2124	0.2306	0.0992	-0.2022	0.2196
School Stipend Programme	0.0124	-0.0415	0.0417	0.0122	-0.0586	0.0637	0.0183	-0.0733	0.0796	0.0263	-0.0892	0.0968
School Feeding Programme	0.0028	-0.0063	0.0064	0.0032	-0.0119	0.0130	0.0047	-0.0148	0.0160	0.0063	-0.0175	0.0190
Maternal and Child Health Voucher	0.0051	-0.0151	0.0151	0.0059	-0.0251	0.0273	0.0085	-0.0300	0.0326	0.0111	-0.0343	0.0372
Allowance for People with Disabilities	0.0042	-0.0174	0.0175	0.0043	-0.0142	0.0154	0.0061	-0.0193	0.0210	0.0086	-0.0251	0.0272
Social Pension	0.0064	-0.0103	0.0104	0.0054	-0.0210	0.0229	0.0080	-0.0255	0.0277	0.0115	-0.0303	0.0329
Cash for Work	0.0001	-0.0001	0.0001	0.0042	-0.0047	0.0051	0.0079	-0.0078	0.0085	0.0112	-0.0106	0.0116
Civil Service Pension Scheme	0.0800	-0.1105	0.1110	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Insurance Against Sickness	0.4229	-0.3192	0.3207	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Maternity leave	0.1817	-0.2080	0.2090	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other	0.2540	-0.1885	0.1894	0.8613	-0.5593	0.6084	0.8450	-0.5376	0.5839	0.8257	-0.5117	0.5557
Total	1.0000	-0.9954	1.0000	1.0000	-0.9193	1.0000	1.0000	-0.9208	1.0000	1.0000	-0.9209	1.0000
Poverty line: $3.2												
Salaries	0.0305	-0.0558	0.0563	0.1035	-0.1555	0.2266	0.1015	-0.1732	0.2178	0.0992	-0.1630	0.2049
School Stipend Programme	0.0124	-0.0157	0.0158	0.0122	-0.0250	0.0364	0.0183	-0.0491	0.0617	0.0263	-0.0571	0.0718
School Feeding Programme	0.0028	-0.0036	0.0036	0.0032	-0.0066	0.0096	0.0047	-0.0118	0.0149	0.0063	-0.0135	0.0170
Maternal and Child Health Voucher	0.0051	-0.0069	0.0070	0.0059	-0.0108	0.0157	0.0085	-0.0198	0.0249	0.0111	-0.0222	0.0279
Allowance for People with Disabilities Programme	0.0042	-0.0087	0.0087	0.0043	-0.0120	0.0175	0.0061	-0.0172	0.0217	0.0086	-0.0208	0.0262
Social Pension	0.0064	-0.0051	0.0051	0.0054	-0.0115	0.0168	0.0080	-0.0207	0.0261	0.0115	-0.0242	0.0305
Cash for Work	0.0001	-0.0001	0.0001	0.0042	-0.0059	0.0086	0.0079	-0.0106	0.0133	0.0112	-0.0138	0.0174
Civil Service Pension Scheme	0.0800	-0.1265	0.1276	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Insurance Against Sickness	0.4228	-0.3696	0.3727	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Maternity leave	0.1817	-0.2342	0.2361	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other	0.2540	-0.1656	0.1670	0.8613	-0.4590	0.6688	0.8450	-0.4927	0.6196	0.8257	-0.4810	0.6044
Total	1.0000	-0.9917	1.0000	1.0000	-0.6863	1.0000	1.0000	-0.7952	1.0000	1.0000	-0.7958	1.0000
Poverty line: $5.5												
Salaries	0.0305	-0.0324	0.0329	0.1035	-0.0950	0.2210	0.1015	-0.0988	0.2131	0.0992	-0.1157	0.2012
School Stipend Programme	0.0124	-0.0065	0.0066	0.0122	-0.0025	0.0059	0.0183	-0.0078	0.0169	0.0263	-0.0304	0.0529
School Feeding Programme	0.0028	-0.0015	0.0015	0.0032	-0.0009	0.0022	0.0047	-0.0029	0.0063	0.0063	-0.0068	0.0119

Maternal and Child Health Voucher	0.0051	-0.0029	0.0030	0.0059	-0.0018	0.0041	0.0085	-0.0045	0.0098	0.0111	-0.0125	0.0217
Allowance for People with Disabilities Programme	0.0042	-0.0040	0.0040	0.0043	-0.0051	0.0119	0.0061	-0.0086	0.0186	0.0086	-0.0138	0.0240
Social Pension	0.0064	-0.0022	0.0022	0.0054	-0.0014	0.0034	0.0080	-0.0046	0.0098	0.0115	-0.0139	0.0242
Cash for Work	0.0001	-0.0001	0.0001	0.0042	-0.0068	0.0159	0.0079	-0.0133	0.0287	0.0112	-0.0185	0.0322
Civil Service Pension Scheme	0.0800	-0.1418	0.1438	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Insurance Against Sickness	0.4228	-0.4182	0.4239	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Maternity leave	0.1817	-0.2599	0.2635	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other	0.2540	-0.1169	0.1186	0.8613	-0.3163	0.7357	0.8450	-0.3231	0.6968	0.8257	-0.3633	0.6320
Total	1.0000	-0.9865	1.0000	1.0000	-0.4299	1.0000	1.0000	-0.4637	1.0000	1.0000	-0.5748	1.0000

Source: Authors' calculations, based on the MLCS-2017

Note: Other includes income from renting/ sharecropping a parcel, value of crop sold unprocessed and processed, value of livestock sold live or slaughter, processed or by products, value of livestock for own consumption, value of the aquaculture products, value of selling fish, revenues from non-farm business, government assistance, pension, assistance from private donors, interest from savings deposits, remittances and other income sources

1/ This simulation assumes that all the poorest (living under a US$1.9 a day) receive the corresponding welfare benefit; 2/ This simulation assumes that all the poorest (living under a US$3.2 a day) receive the corresponding welfare benefit; 3/ This simulation assumes that all the poorest (living under a US$5.5 a day) receive the corresponding welfare benefit.

Table 13. Decomposition of the Gini index by income sources based on Lerman and Yitzhaki (1985)'s approach. Simulation estimates at the national level

		Universal approach		Targeting approach 1/		Targeting approach 2/		Targeting approach 3/	
Sources	**Gini index**	**Absolute contribution**	**Relative contribution**	**Absolute contribution**	**Relative contribution**	**Absolute contribution**	**Relative contribution**	**Absolute contribution**	**Relative contribution**
Salaries	0.7848	0.007780	0.019903	0.041518	0.055908	0.040231	0.055448	0.039300	0.055330
	0.0060	*0.000909*	*0.002621*	*0.004766*	*0.007780*	*0.004589*	*0.007763*	*0.004421*	*0.007733*
School Stipend Programme	0.5635	-0.000280	-0.000717	-0.003668	-0.004939	-0.005364	-0.007393	-0.005879	-0.008277
	0.0053	*0.000124*	*0.000320*	*0.000367*	*0.000626*	*0.000505*	*0.000915*	*0.000553*	*0.001033*
School Feeding Programme	0.6515	-0.000212	-0.000543	-0.001035	-0.001393	-0.001481	-0.002041	-0.001674	-0.002357
	0.0061	*0.000034*	*0.000092*	*0.000109*	*0.000182*	*0.000146*	*0.000259*	*0.000158*	*0.000295*
Maternal and Child Health Voucher Scheme	0.8151	-0.000219	-0.000559	-0.001450	-0.001952	-0.001971	-0.002716	-0.002257	-0.003177
	0.0062	*0.000136*	*0.000350*	*0.000200*	*0.000310*	*0.000278*	*0.000440*	*0.000298*	*0.000494*
Allowance for People with Disabilities	0.9418	0.000517	0.001323	0.000940	0.001266	0.001106	0.001524	0.001546	0.002177
	0.0035	*0.000212*	*0.000548*	*0.000281*	*0.000392*	*0.000294*	*0.000424*	*0.000352*	*0.000528*
Social Pension	0.7575	0.001529	0.003911	-0.001367	-0.001841	-0.001961	-0.002702	-0.002088	-0.002940
	0.0059	*0.000127*	*0.000404*	*0.000177*	*0.000279*	*0.000244*	*0.000400*	*0.000268*	*0.000448*
Cash for Work	0.9861	0.000007	0.000017	0.002734	0.003682	0.005122	0.007060	0.007355	0.010355
	0.0024	*0.000009*	*0.000023*	*0.000639*	*0.000909*	*0.000940*	*0.001420*	*0.001103*	*0.001781*
Civil Service Pension Scheme	0.6758	0.017096	0.043733	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	0.0061	*0.001191*	*0.004011*						

Insurance Against Sickness	0.3269	0.114793	0.293648	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	0.0041	*0.003893*	*0.020237*						
Maternity leave	0.4679	0.069817	0.178595	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	0.0057	*0.002532*	*0.012510*						
Government assistance	0.9820	0.000001	0.000002	-0.000011	-0.000015	-0.000020	-0.000028	-0.000031	-0.000044
	0.0019	*0.000008*	*0.000021*	*0.000022*	*0.000030*	*0.000022*	*0.000031*	*0.000023*	*0.000033*
NGOs or Dev. Organization	0.9921	-0.000010	-0.000025	-0.000013	-0.000018	-0.000018	-0.000025	-0.000018	-0.000026
	0.0011	*0.000006*	*0.000015*	*0.000016*	*0.000021*	*0.000016*	*0.000022*	*0.000015*	*0.000021*
Pension	0.9683	0.000187	0.000479	0.001921	0.002586	0.001888	0.002602	0.001881	0.002649
	0.0026	*0.000057*	*0.000149*	*0.000252*	*0.000396*	*0.000243*	*0.000397*	*0.000235*	*0.000398*
Assistance from private donors	0.9745	-0.000040	-0.000101	0.000976	0.001314	0.000992	0.001367	0.000952	0.001340
	0.0029	*0.000087*	*0.000222*	*0.000332*	*0.000458*	*0.000324*	*0.000460*	*0.000316*	*0.000458*
Interest from savings deposits	0.9951	0.001537	0.003933	0.007423	0.009995	0.007256	0.010001	0.007073	0.009959
	0.0016	*0.001168*	*0.002992*	*0.003996*	*0.005429*	*0.003919*	*0.005451*	*0.003828*	*0.005440*
Remittances	0.9273	0.000617	0.001579	0.014479	0.019497	0.014107	0.019442	0.013978	0.019680
	0.0052	*0.000635*	*0.001626*	*0.002532*	*0.003728*	*0.002467*	*0.003738*	*0.002404*	*0.003746*
Other	0.8708	0.177800	0.454823	0.680166	0.915910	0.665682	0.917462	0.650134	0.915331
	0.0134	*0.021419*	*0.037167*	*0.028033*	*0.012367*	*0.028748*	*0.012299*	*0.029403*	*0.012502*
Total	0.3909	0.390922	1.000000	0.742612	1.000000	0.725569	1.000000	0.710272	1.000000
	0.0157	*0.015694*	*0.000000*	*0.022053*	*0.000000*	*0.023112*	*0.000000*	*0.023890*	*0.000000*

Source: Authors' calculations, based on the MLCS-2017calculations

Standard errors are in italics.

Note: Other includes income from renting/ sharecropping a parcel, value of crop sold unprocessed and processed, value of livestock sold live or slaughter, processed or by products, value of livestock for own consumption, value of the aquaculture products, value of selling fish, revenues from non-farm business, government assistance, pension, assistance from private donors, interest from savings deposits, remittances and other income sources

1/ This simulation assumes that all the poorest (living under a US$1.9 a day) receive the corresponding welfare benefit; 2/ This simulation assumes that all the poorest (living under a US$3.2 a day) receive the corresponding welfare benefit; 3/ This simulation assumes that all the poorest (living under a US$5.5 a day) receive the corresponding welfare benefit.

Turning to the simulation results under the assumption that social assistance programmes focus on the poorest eligible populations, we find that targeting approaches that cover those living under the World Bank poverty lines, would not only achieve larger equalising effects than universal delivery approaches. They would also reverse the absolute contribution of the social pension to the Gini index, from a positive (regressive) correlation to a negative (progressive) one. As in the case of the decomposition of the FGT headcount index, we also find that the size of the inequality reducing contribution of social assistance as a whole would be stronger in rural areas than in urban districts, although in the case of Allowance for People with Disabilities Programme, it would have an equalizing effect only in urban areas, given the position of a large number of people with disabilities that live in cities, within the income distribution (see Table B.3 and Table B.4 in on-line Appendix B).

Simulation results also reveal considerable heterogeneity in the contribution of social assistance programmes to the Gini index, under poverty targeting scenarios. Taken the social assistance system as a whole under the current level of entitlements, a pro-poor welfare benefit system would contribute to equalising the levels of income inequality in Kayah, Sagaing, Tanintharyi, Bago, Magway, Mandalay, Mon, Yangon, Shan, and Ayeyarwady. In other states and regions such as Kachin, Kayin, Chin, Rakhine and Nay Pyi Taw, the social assistance system would exacerbate income inequality, largely because of the regressive effects of some programmes, notably the Allowance for People with Disabilities and the Cash for Work programme, which under the current design features would exceed the more equalizing (but smaller) effects of the School Stipend, the School Feeding Programme, and the Maternal and Child Health Voucher Scheme. This underscores the importance of not only favouring a poverty targeting approach to effectively reducing existing inequalities across Myanmar's states and regions, but also fine-tuning the current design features and levels of entitlements of some welfare benefit schemes.

5.3. Benefit incidence analysis under hypothetical redistributive scenarios

In this section, we discuss the results of the benefit incidence analysis under the hypothetical scenarios that social assistance programmes would target the poorest individuals of eligible populations, under the current programmatic rules, following the World Bank's absolute poverty lines. The upper section of Table 14 and Table 15 presents BIA estimates under the hypothetical scenario that those eligible to receive a welfare benefit and living with incomes below US$1.9 a day are covered by the corresponding transfer programmes. The second section of the same tables presents the estimates based on the assumption that social assistance programmes cover those living with incomes below US$3.2 a day, while the bottom section of the tables show the results under the assumption that transfer programmes cover those living with incomes below US$5.5 a day.

Results in Table 14 indicate that if the Myanmar government had scaled up the current system of social assistance to cover those living below US$1.9 a day, the system as a whole would have covered the vast majority of the poorest 20%, but just a fraction of those at the second quintile of income distribution, with an overall rate of participation of around 30% among the poorest 40%. Programmes such as the School Stipend, the Maternal and Child Health Voucher, and the Social Pension would cover the poorest 27%, 34% and 25%, respectively. This indicates that while social assistance programmes would generally be progressive under this scenario, these policies would not be strictly pro-poor, given the current level of mean income and the shape of the income distribution. The government would need to expand the coverage of social assistance up to those living below US$3.2 a day to redistribute welfare benefits

among the poorest 40%, and thus achieve a pro-poor redistribution (see second section of Table 14).

Furthermore, results on the predicted average of benefits at the level of recipients of welfare benefits indicate that targeting approaches to social assistance delivery would achieve a more efficient allocation of public resources, with programmes such as the School Stipend, the Maternal and Child Health Voucher, or the Social Pension achieving an average level of per capita benefits of approximately US$0.99, US$1.4 and US$1.1 a day at PPP of 2011, respectively (see Table 15). Thus, taking a targeting approach would potentially lead to a significant poverty alleviation, with varying degrees of effectiveness, depending on the design features of social assistance programmes.

Table 14. Rate of participation of transfer programmes by quintiles. Simulation estimates at the national level

Groups	School Stipend	School Feeding	Maternal and Child Health Voucher	Allowance for People with Disabilities	Social Pension
Targeting approach assuming all those living under a US$1.9 a day receive the corresponding welfare benefit					
Quintile 1	0.9986	0.9982	0.9901	1.0000	0.9995
Quintile 2	0.2342	0.2245	0.2053	0.1955	0.2580
Quintile 3	0.0000	0.0000	0.0000	0.0000	0.0000
Quintile 4	0.0000	0.0000	0.0000	0.0000	0.0000
Quintile 5	0.0000	0.0000	0.0000	0.0000	0.0000
All	0.2695	0.3055	0.3395	0.2846	0.2503
Targeting approach assuming all those living under a US$3.2 a day receive the corresponding welfare benefit					
Quintile 1	1.0000	1.0000	0.9985	1.0000	1.0000
Quintile 2	0.8695	0.8748	0.8558	0.8787	0.8933
Quintile 3	0.0000	0.0000	0.0000	0.0000	0.0000
Quintile 4	0.0000	0.0000	0.0000	0.0000	0.0000
Quintile 5	0.0000	0.0000	0.0000	0.0000	0.0000
All	0.4125	0.4597	0.4870	0.4433	0.3809
Targeting approach assuming all those living under a US$5.5 a day receive the corresponding welfare benefit					
Quintile 1	1.0000	1.0000	1.0000	1.0000	1.0000
Quintile 2	1.0000	1.0000	0.9996	0.9991	1.0000
Quintile 3	0.7359	0.7497	0.7494	0.6588	0.7229
Quintile 4	0.0000	0.0000	0.0000	0.0000	0.0000
Quintile 5	0.0000	0.0000	0.0000	0.0000	0.0000
All	0.6042	0.6505	0.6623	0.6090	0.5487

Source: Authors' calculations, based on the MLCS-2017

Table 15. Average benefits of transfer programmes at the level of recipients of welfare benefit by quintiles. Simulation estimates at the national level

Groups	School Stipend	School Feeding	Maternal and Child Health Voucher	Allowance for People with Disabilities	Social Pension
Targeting approach assuming all those living under a US$1.9 a day receive the corresponding welfare benefit					
Quintile 1	0.9955	0.3446	1.4115	3.1822	1.1291
Quintile 2	0.9955	0.3446	1.4115	3.1822	1.1291
Quintile 3	0.0000	0.0000	0.0000	0.0000	0.0000
Quintile 4	0.0000	0.0000	0.0000	0.0000	0.0000
Quintile 5	0.0000	0.0000	0.0000	0.0000	0.0000
All	0.9955	0.3446	1.4115	3.1822	1.1291
Targeting approach assuming all those living under a US$3.2 a day receive the corresponding welfare benefit					
Quintile 1	0.9813	0.3394	1.4063	3.0729	1.1423
Quintile 2	0.9813	0.3394	1.4063	3.0729	1.1423
Quintile 3	0.0000	0.0000	0.0000	0.0000	0.0000
Quintile 4	0.0000	0.0000	0.0000	0.0000	0.0000
Quintile 5	0.0000	0.0000	0.0000	0.0000	0.0000
All	0.9813	0.3394	1.4063	3.0729	1.1423
Targeting approach assuming all those living under a US$5.5 a day receive the corresponding welfare benefit					
Quintile 1	0.9805	0.3328	1.4059	3.0780	1.1408
Quintile 2	0.9805	0.3328	1.4059	3.0780	1.1408
Quintile 3	0.9805	0.3328	1.4059	3.0780	1.1408
Quintile 4	0.0000	0.0000	0.0000	0.0000	0.0000
Quintile 5	0.0000	0.0000	0.0000	0.0000	0.0000
All	0.9805	0.3328	1.4059	3.0780	1.1408

Source: Authors' calculations, based on the MLCS-2017

6. Conclusion

In this study, we have provided an analysis of the existing social protection system in Myanmar, paying attention to the current and potential poverty and inequality reducing effects of individual programmes, under various hypothetical scenarios. Evidence from the most recent household survey data reveals very low levels of coverage of contributory social insurance schemes and non-contributory social assistance programmes, each with varying degrees of poverty reducing effects within the targeted populations and the national poverty rates. Social assistance programmes in particular provide negligible levels of protection to poor and vulnerable populations against life contingencies and life cycle risks, and therefore, they contribute very marginally to poverty reduction efforts. These small poverty reducing effects are nonetheless heterogeneous across regions and states, and largely driven by rural areas, denoting an unequal access to welfare benefits at subnational level.

Our study also finds that the contribution of welfare benefits to reducing inequality is mixed, with social insurance schemes having, by and large, disequalising effects on the national income distribution, while several, although not all, social assistance programmes observe a more equalizing, although modest contribution to the distribution of income. Benefit incidence analysis further illustrate the regressivity of social insurance schemes under the current provision of protection, while revealing weak progressivity among social assistance programmes, which all fail to achieve a strictly pro-poor redistribution.

Simulation analysis indicates that scaling up the system of social assistance under a poverty targeting approach would produce larger poverty reducing effects than universal approaches, irrespective of the design features of programmes. Adopting a universal approach to social

protection expansion would also strengthen the equalising contribution of social assistance to the income distribution while reinforcing substantially the disequalising effect of social insurance.

Benefit incidence analysis also shows that scaling up the current system of social assistance under a poverty targeting approach, would need to expand coverage to provide protection to those living below US$3.2 a day to redistribute welfare benefits among the poorest 40%, and thus achieve a pro-poor redistribution. This option would be a more efficient policy choice to reduce poverty and tackle inequality than universal approaches to the delivery of welfare benefits, given existing budgetary constraints. Our results are in line with previous studies that find poverty targeting outperforming universal programmes in terms of welfare gains, particularly in the context of welfare benefits paid in cash (Grosh and Leite 2009; Hanna and Olken 2018). Further analysis is needed to account for inclusion and exclusion errors of targeted approaches as well as the potential behaviour effects that universal and poverty targeting policies could have on efficiency and equity.

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