COSTING OF A PACKAGE OF FAMILY-FRIENDLY TRANSFERS AND SERVICES TO ADVANCE GENDER EQUALITY AND WOMEN'S EMPOWERMENT

AN INTRODUCTION TO THE CALCULATIONS AND RESULTS

MIRA BIERBAUM AND MICHAEL CICHON

PAPER COMMISSIONED FOR PROGRESS OF THE WORLD'S WOMEN 2019-2020: FAMILIES IN A CHANGING WORLD

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SUMMARY

This paper presents a costing analysis for a set of family-friendly services and transfers: income protection for children, people of working age and older persons; universal health coverage; and early childhood care and education and long-term care services. The social protection and care policies that are included in the costing have enormous significance for families and broader society, and their implementation would have particularly important impacts for women, since they are over-represented among those without income security, they face specific life course contingencies and they take on a highly disproportionate share of unpaid care work. Previous work studied different components of this package more in-depth, often also providing projections for the future. The comparative advantage of the present study is that it looks at an integrated package of family-friendly services and transfers and estimates the costs for a large sample of countries (151 to 166 depending on the scenario).

The costing is based on the basic idea of identifying gaps in a country's current level of protection. The focal question is not so much what countries have already achieved (though this is, of course, indirectly taken into account) but to what extent gaps in protection remain and how much resources countries would have to invest or reallocate to close those gaps. Assumptions for the costing were formulated as far as possible based on the Sustainable Development Goals, the Social Protection Floors Recommendation (No. 202) (International Labour Conference 2012) and internationally recognized standards. The results of the costing give a rough indication of the order of magnitude of resources that would need to be invested or re-allocated to family-friendly transfers and services to close existing protection gaps. The costing shows that such a package is affordable in many countries. Depending on the scenario, median costs range between 4.6 and 10.1 per cent of GDP. Those countries that cannot finance the full package can initially afford at least some of its critical elements, such as health care or income support.

RESUMEN

En este artículo se presenta un análisis de los costos de un conjunto de transferencias y servicios orientados a las familias, a saber: la protección de los ingresos para la infancia, para personas en edad de trabajar y personas adultas mayores; la cobertura universal de la salud; y el cuidado y la educación de la primera infancia y los servicios de cuidados prolongados. Las políticas de protección social y de cuidados que se incluyen en la estimación de costos revisten una enorme importancia para las familias y la sociedad en su conjunto. Su implementación podría ejercer efectos especialmente importantes entre las mujeres, pues estas se encuentran sobrerrepresentadas entre quienes no gozan de seguridad de los ingresos, enfrentan contingencias específicas en el curso de vida y asumen una carga sumamente desproporcionada del trabajo de cuidados no remunerado. En investigaciones previas se han analizado en mayor detalle los distintos componentes de este paquete, donde a menudo se ofrece un conjunto de proyecciones. La ventaja comparativa del presente estudio es que en él se analiza un paquete integral de transferencias y servicios orientados a las familias y se estiman los costos para una extensa muestra de países (entre 151 y 166 países según el caso).

La estimación de los costos se funda en la idea primordial de determinar las brechas en el nivel de protección actual de los países. La pregunta medular no se orienta tanto a conocer qué logros ya han alcanzado los países (aunque esto, desde luego, se considerará de manera indirecta), sino en qué medida se mantienen las brechas de protección y cuántos recursos tendrían que invertir

o recaudar los países para salvar dichas brechas. Los supuestos para la estimación de costos se formularon, en la medida de lo posible, en función de los Objetivos de Desarrollo Sostenible, la Recomendación num. 202 de la Organización Internacional de Trabajo sobre los pisos de protección social (Conferencia Internacional del Trabajo, 2012) y un conjunto de principios internacionalmente reconocidos. Los resultados de la estimación de costos ofrecen una indicación aproximada de la magnitud de los recursos que se necesitaría invertir o reasignar para

superar las brechas de protección social a través de transferencias y servicios orientados a las familias. De los cálculos se desprende que numerosos países están en condiciones de afrontar los costos de este paquete. En función del escenario de que se trate, los costos medios varían entre el 4,6 % y el 10,1 % del producto interno bruto. Aquellos países que no pueden financiar la totalidad del paquete pueden inicialmente costear al menos algunos de sus elementos fundamentales, como la atención de la salud y el apoyo a los ingresos.

RÉSUMÉ

Ce document présente une analyse du coût des services et transferts favorables à la famille : protection des revenus pour les enfants, les personnes actives et âgées ; accès universel aux soins de santé ; services de soins de la petite enfance et services de soins de longue durée. La protection sociale et les politiques de soins incluses dans les soins revêtent une importance cruciale pour les familles et la société dans son ensemble, et leur mise en œuvre aurait un impact important pour les femmes qui sont sur-représentées dans les catégories de personnes dépourvues de la sécurité d'un revenu, qui doivent faire face à des aléas particuliers et accomplir une charge disproportionnée en matière de soins non rémunérés. Nos travaux précédents ont étudié de manière plus approfondie différentes composantes de cet ensemble de transferts et de services, établissant des projections pour l'avenir. L'avantage comparatif de la présente étude est d'envisager un ensemble intégré de services et transferts favorables à la famille et d'en estimer le coût pour un large échantillon de pays (151 à 166 selon le scénario).

L'estimation du coût s'appuie sur la nécessité d'identifier les lacunes dans le système actuel de protection d'un pays. La question focale n'est pas tant de savoir ce à quoi les pays sont déjà parvenus (bien que cela soit, de toute évidence, indirectement pris en compte), mais dans quelle mesure des lacunes demeurent en matière de protection et combien de ressources les pays devraient investir ou réaffecter pour les combler. Des hypothèses de coût ont été échafaudées sur la base des Objectifs de développement durable, de la Recommandation N°202 sur les socles de protection sociale (Conférence internationale du travail 2012) et des normes internationalement reconnues. Les résultats de l'estimation du coût donnent une idée de la magnitude des ressources qui auraient besoin d'être investies ou réaffectées dans des transferts ou des services favorables aux familles pour combler les lacunes existantes. L'estimation du coût montre que cet ensemble de transferts et de services est abordable financièrement par de nombreux pays. Selon le scénario, les coûts moyens se situent entre 4,6 et 10,1 du PIB. Ces pays qui ne peuvent pas financer l'ensemble des transferts et services peuvent se permettre initialement au moins certains de ses éléments cruciaux, notamment la couverture sanitaire et le soutien au revenu.

1.

BACKGROUND AND BASIC APPROACH

UN Women's flagship report Progress of the World's Women 2019-2020: Families in a Changing World aims to answer the question: how can laws, policies and public action support households and families in ways that enable women's rights to resources, bodily integrity and voice? The Report starts from the premise that strengthening gender equality within families is critical to ensure women's rights to resources and income; to bodily integrity; and to voice and agency. Drawing on positive examples from around the world, the report outlines a comprehensive agenda for public action, by states and civil society, that supports diverse families while triggering the kinds of changes in power dynamics, social norms and stereotypes needed for women to enjoy substantive equality.

To implement the recommendations outlined in the chapters of the Progress Report, UN Women advocates that governments need to design a package of family-friendly social transfers and services, aimed at supporting diverse families and protecting women's rights. The importance of this was reinforced by the Commission on the Status of Women which has urged governments to implement family-oriented policies aimed at achieving gender equality and the empowerment of women (UN ECOSOC 2018, UN ECOSOC 2019). The analysis does not cover all the policy elements included in the Report. Those for which established methodologies for estimating the costs do not exist, such as enacting family law reforms; introducing and enforcing laws on violence against women; and improving data collection and analysis on families, were excluded for the purposes of this exercise.

Nevertheless, the social protection and care policies that are included in the costing have enormous significance for families and broader society, and their implementation would have particularly important impacts for women, since they are over-represented among those without income security, they face specific life course contingencies (notably maternity and

greater longevity) and they take on a highly disproportionate share of unpaid care work. A summary of this analysis, as well as information on how countries can mobilize the required resources to implement these policies are included in the *Progress* Report in a section called: 'What will it cost? Financing a package of family-friendly policies to support gender equality and women's empowerment'. This paper provides background information on the methodology that was used and introduces the calculations.

The costing aims to identify the resources that a country would need to invest or reallocate in order to realize a package of family-friendly transfers and services. It focuses on the identification of current gaps in protection and estimates how much it would cost to fill these gaps. Its top-down approach provides a stationary snapshot of resource needs, which are expressed as a share of a country's gross domestic product (GDP), to provide an estimation of what this amount means in relation to a country's economic capacity. The idea of estimating the potential costs to close social protection gaps is based on Cichon and Cichon (2015, p. 24); it is also used for calculating the Social Protection Floor Index (SPFI) (Bierbaum et al. 2016; Bierbaum et al. 2017).

Conceptually, the transfers and services included in the costing and the assumptions made are guided by the Sustainable Development Goals (SDGs), the Social Protection Floors Recommendation, 2012 (No. 202) (International Labour Conference 2012) and internationally recognized standards as, for instance, published by the International Labour Organization (ILO) and the United Nations' Children's Fund (UNICEF). The following transfers and services are included:

• Income protection over the life cycle for:
  - children (aged 0-17)
  - women and men of working age (18-64) who are unable to earn a sufficient income, particularly in cases of unemployment, maternity or parental leave or disability
  - older women and men (aged 65 or above)
• Universal health coverage
• Early childhood care and education (ECCE) (for children aged 0-5)
• Long-term care (LTC) services for older women and men who need them.

Previous models and costing exercises have investigated different transfers or services more in depth, including projections up to the year 2030. In the health sector, for example, a study estimated the resources that would be needed to strengthen health systems in low- and middle-income countries towards the attainment of the health targets of the SDGs from 2016 to 2030 (Stenberg et al. 2017). A report by the ILO (2018a), dedicated to the future role of care work in a changing world, included a costing exercise that estimated the level of expenditure needed to maintain and expand care services, comprising the education, health and social work sectors. It furthermore looked at the employment-generating effect of these services by 2030.

Two main features distinguish the present costing from these studies. First, it looks at an integrated set of social transfers and services that complement each other in order to guarantee that every member of society has access to basic income security and essential (health) care over the life cycle. For children, for instance, income security encompasses being not only well nourished but also able to access care and education. For older persons with physical or mental incapacities, income protection needs to be complemented by available and accessible high-quality public LTC services. Benefits for people of working age, such as maternity or parental benefits, need to be accompanied by health services that cater for the needs of both the baby and the mother. In that sense, the elements of the costing reflect that protection is a multidimensional concept.

Second, this costing aims at including as many countries as possible in the sample. The previously cited study that looked at the attainment of the SDG health targets (Stenberg et al. 2017) included 67 countries that represented the large majority of the population in low- and middle-income countries. The costing and projections in the ILO report on the future of care (ILO 2018a) covered 45 countries. The results presented in our exercise are, depending on the scenario, based on 151 to 166 countries. It hence includes high-, upper-middle-, lower-middle- and low-income countries from all regions in the world. The costs for some components—for instance, health—can be calculated for an even larger number of countries. For the sake of clarity and consistency between the presentation of results by components and the aggregated index, however, we only present the results for countries for which all components can be estimated. Estimates refer to 2015 or the most recent available year. All calculations are based on publicly available data sources to guarantee transparency and reproducibility. In summary, the approach adopted here takes a bird's-eye view that provides estimates of an integral set of transfers and services for the largest set of countries possible. It thereby complements more detailed studies that zoom in on specific services or sectors.

Such an approach necessarily implies a number of caveats. In reality, protection gaps can usually only be addressed over a longer time frame and with continuous investments that cover capital and recurrent costs. In addition, as demographic profiles of countries change, resource demands will change accordingly.

For instance, in ageing societies, resource demands for pensions for older persons and LTC services will increase in future whereas childcare-related costs will decrease. Furthermore, the costed transfers and services should be understood as a minimum. Countries should continuously strive to augment services and extend social security in order to achieve and maintain sustainable protection. The indicated GDP allocation provides a rough view on the order of magnitude, but it does not replace detailed country studies that also take into account national circumstances and priorities.

An important note is necessary with regard to violence against women (VAW) services that have not been included in the costing even though they should be part of any package of family-friendly transfers and services. The prevalence of physical, sexual or psychological partner violence against women is monitored within the framework of the SDGs (indicator 5.2.1 under Goal 5: "Achieve gender equality and empower all women and girls"). Based on data from between 2005 and 2016 from 87 countries that represent 43 per cent of the world's population, nearly every fifth women aged 15 years or older experienced physical or sexual violence from a current or former intimate partner in the preceding year. According to a World Health Organization study (WHO 2013), the global lifetime prevalence of intimate partner violence among ever-partnered women is 30 per cent. A number of studies have calculated the costs of violence against women at the individual and societal level. These include direct tangible costs, such as policing or the provision of social services, as well as indirect tangible costs, such as the loss of earnings. Violence can negatively affect women's physical, mental, sexual and reproductive health. Furthermore, others might also be affected—for example, children who witnessed violence. Whereas studies exist that look at the costs of VAW at the individual and societal level, only very limited information is available on what it costs to set up VAW service. Since this work is still embryonic, we decided not to cost this component in the present exercise. However, future costing exercises need to include it.

The bulk of the paper, sections 2-5, outlines the assumptions for each component of the package and the data sources used. This is followed by a section summarizing the results and then a brief consideration of the links between social protection, economic growth and returns to investments before the conclusion.

INCOME PROTECTION OVER THE LIFE CYCLE

Three components of this costing refer to social transfers: child allowances; benefits for people of working age who cannot earn a sufficient income due to different contingencies; and benefits for older persons. For these three components, two alternative sets of results are modelled: first, a targeted approach that directs resources towards the financially most vulnerable groups in the population, as indicated by living below a minimum income; and second, a categorical approach in which all people who fall within a certain category based, for instance, on their age and/or certain contingencies over the life course, are eligible for a benefit.

Before looking separately at each component, the paper outlines how gaps in income protection are identified when a targeted approach is employed. Due to data availability, the first step is to estimate income gaps in the population. In a second step, figures on poverty incidence in different age brackets are used to derive separate estimates of the financial needs of children, people of working age and older persons.

2.1

Gaps in income protection over the life cycle

The first step is to estimate how much money would need to be allocated to assure that every person has access to a defined minimum income. For each individual, it is determined whether she is monetary poor or not. Monetary poverty means that an individual's household per capita income (or consumption, depending on the type of underlying data) is below a defined minimum amount: the so-called poverty line.[1] The poverty line divides the poor from the non-poor population. The gaps between the current per capita household income of people in poverty and the

defined minimum amount are calculated and added together for all individuals in a given country. The resulting amount is referred to as the aggregated poverty gap. To link this absolute amount to a country's economic capacity, it is expressed as a share of GDP. This is what we refer to as 'the income gap'.

The income gap is calculated as follows: First, the poverty gap (PG) in a country is retrieved from PovcalNet (World Bank 2018a). This is the mean distance below the poverty line expressed as a proportion of the poverty line. N refers to the total number of all individuals in a given country j and y_i to their per capita household incomes. The gap g_i is zero for the non-poor.

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1   The primary source of information for monetary poverty measures are household surveys. The data collected in these surveys are typically on the income or consumption of the complete household and not individuals living in it. Household-level consumption or income is divided by the number of people living there to calculate individuals' household per capita income or consumption. This can mask important disparities within households in terms of, for instance, age (see below) or gender.

$$PG_j = \frac{1}{N}\sum_{i=1}^{N}\left(\frac{g_i}{z}\right) \qquad with\ g_i = \begin{cases} z - y_i & if\ y_i < z \\ 0 & if\ y_i \geq z \end{cases} \quad (1)$$

Second, the poverty gap IG_j is used to calculate the income gap for a country j. It represents the sum of all individual income shortfalls expressed as a share of a country's GDP (World Bank 2018b):

$$IG_j = \frac{PG_j * N * z}{GDP_j} \qquad (2)$$

Two different poverty lines are used for this costing. The first is the absolute international poverty line set at \$3.20 in 2011 purchasing power parity (PPP) per day. This widely used line has a fixed real value over time and space and thus allows comparisons both within a country over time and across countries at the same point in time. However, because it is the median value of national poverty lines of lower-middle-income countries (Jolliffe and Prydz 2016), it is mostly applicable to developing countries. Higher-income countries have typically favoured relative poverty lines over absolute ones.

Hence, we calculate, second, income gaps based on a relative poverty line that is set at 50 per cent of median income (survey median) in a country. This relative line does not merely consider the resources that are needed for physical survival but also takes into account the costs of social inclusion in a given society. This acknowledges relative determinants of welfare that differ between societies and allows us to calculate the income gap for higher-income countries in a meaningful way. This approach reflects SDG indicator 10.2.1 (proportion of people living below 50 per cent of median income), which monitors SDG 10 to reduce inequality within and among countries. A poverty line set at 50 per cent of median income is also in line with the approach followed by the Organisation for Economic Co-operation and Development (OECD).

In 44 countries (23 low-income, 19 lower-middle-income and 2 upper-middle-income), however, median survey income is so low that 50 per cent of it amount to less than \$1.90 in 2011 PPP per day, the line of extreme poverty set by the World Bank. As this line represents a globally accepted, absolute minimum income, it is used as a floor for relative poverty and applied in these countries. This approach is in line with the unifying framework for measuring poverty in developed and developing countries proposed by Atkinson and Bourguignon (2001). In Figure 1, the dots indicate the value

FIGURE 1
Income floor and 50 per cent of survey median

50 per cent of survey median   — Income floor
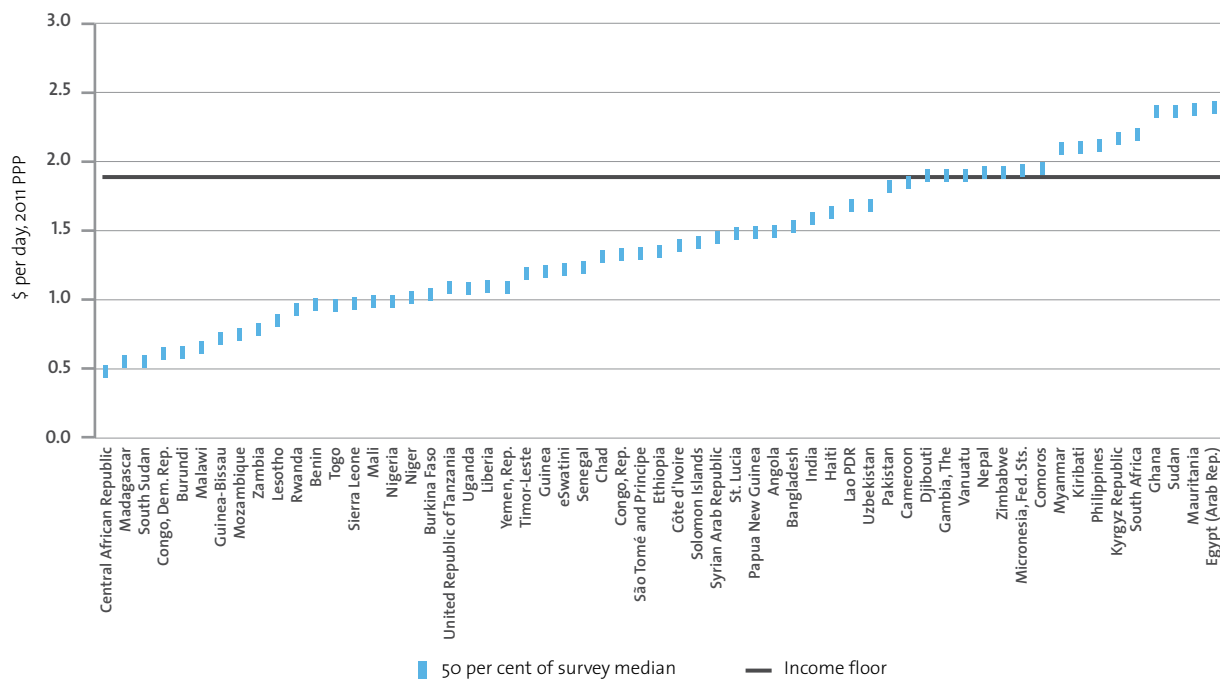
of 50 per cent of the survey median (in 2011 PPP, per day). The countries are ordered by this value, starting with the Central African Republic in which 50 per cent of survey median is $0.48 in 2011 PPP per day. In Cameroon, this value amounts to $1.85 and in Djibouti to $1.91. The line indicates the income floor set at $1.90. If the survey median falls below this value, the income floor is applied, as in all countries up to Cameroon. As soon as the value is above $1.90, as in Djibouti, this value is taken to calculate the income gaps.

Income gaps are calculated based on the most recent estimates of poverty gaps for the reference year 2015 provided by PovcalNet (World Bank 2018a). Details on the methodology and underlying survey data are provided on the PovcalNet webpage (ibid.). Estimates are available for 161 countries.[2] Since the 2017 update, this database has included estimates for higher-income countries, overturning the previous, simplified assumption that there is no extreme or moderate poverty in such countries. It respects Atkinson's call for a truly global approach to poverty measurement in the report of the Commission on Global Poverty that he chaired (World Bank 2017) and is furthermore in line with the SDGs, which call for action from all States.

The gaps that are calculated in this way refer to the income gap over the complete population in a given country. The income gap indicates the share of GDP that would have to be allocated to assure that every person has access to a defined minimum income. However, we do not know who the people are that are living in poverty, for instance to what extent money would have to be allocated to children, people of working age, or elder persons. Disaggregation by age groups would require direct access to micro data. Even with direct access to household surveys, it is still necessary to make the assumption that household resources are shared equally among household members, which is not necessarily the case. In any event, as this type of data is not widely publicly available, the share of children, people of working age and older persons among the poor is estimated with reference to regional averages. These regional averages are derived from the work of UN Women and the World Bank with the Global Micro Database (GMD), which includes household surveys from 89 countries. For each region, we have estimates of the average incidence of extreme poverty (living on less than $1.90 in 2011 PPP per day) and moderate poverty (living on less than $3.20 in 2011 PPP per day) among children and adolescents aged 0-19, person of working age (20-64) and older persons above the age of 65 (see Tables 1 and 2).

These regional averages are applied to country-specific data on the number of children (0-17), people of working age (18-64) and older persons (65+)[3] based on the population figures in 2015 as published in the 2017 revisions of *World Population Prospects* (UN DESA 2017) for 194 countries. By multiplying the age group-specific regional poverty rates with the number of people in each age bracket in a country,[4] we derive the (hypothetical) absolute number of the poor by age group. These figures are used to calculate the distribution of the poor across these three age groups in a given country. Finally, this distribution of the poor is used to estimate the proportionate size of the income gap in each age group. To provide a general picture: Worldwide, roughly 31 per cent of the population are younger than 18, 61 per cent are aged 19 to 64 and the remaining 8 per cent are aged 65 or above. Among both the extremely and the moderately poor population, roughly 49 per cent are children, 46-47 per cent are of working age and the remaining 5 per cent are older persons.

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2   In 17 countries, the survey median is not available for 2015. Instead, the survey median of the most recent survey year is used. These countries are Argentina, Bangladesh, Bhutan, Ethiopia, Gabon, The Gambia, Kenya, Malaysia, Micronesia (Federated States of), Mongolia, Namibia, Pakistan, Sri Lanka, Uganda, United States of America and Viet Nam.

3   Due to data availability, the age groups are slightly different.

4   For the first poverty line that we use, $3.20 in 2011 PPP, the age group-specific regional moderate poverty rates presented in Table 2 are used for these calculations. For the second, relative poverty line, we use the estimates on age-group specific extreme poverty rates (Table 1) for all countries in which we apply the income floor set at $1.90 in 2011 PPP. For the remaining countries, we equally use the estimates on age-group specific moderate poverty rates.

TABLE 1
Regional extreme poverty incidence (percentages), by age groups

Region	Age group				Number of countries
	0-19	20-64	65+	Total	
East Asia and the Pacific	5.32	2.84	3.66	3.58	11
Eastern Europe and Central Asia	1.40	0.62	0.26	0.77	24
Latin America and the Caribbean	7.83	4.09	2.79	5.34	18
Middle East and North Africa	2.69	1.48	1.49	1.93	3
South Asia	19.40	12.56	11.94	15.29	7
Sub-Saharan Africa	47.98	37.67	35.17	43.16	26
Total	**19.05**	**9.14**	**7.00**	**12.53**	**89**

Note: The number of countries per region are taken from Castañeda et al. (2018, p. 254), which also provides further information on the number of surveys per survey year and the share of the developing world population represented in the sample.

TABLE 2
Regional moderate poverty incidence (percentages), by age groups[5]

Region	Age group				Number of countries
	0-19	20-64	65+	Total	
East Asia and the Pacific	21.32	13.91	16.68	16.14	11
Eastern Europe and Central Asia	5.42	2.40	1.12	2.98	24
Latin America and the Caribbean	17.02	8.66	6.43	11.49	18
Middle East and North Africa	7.89	4.81	4.97	5.98	3
South Asia	58.63	45.71	44.32	50.85	7
Sub-Saharan Africa	73.35	61.64	59.91	67.91	26
Total	**43.81**	**26.54**	**22.47**	**32.42**	**89**

Note: See Table 1.

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5   Figures 2 to 5 summarize the estimated costs of closing protection gaps for children for the four different scenarios. The detailed results are listed in the online appendix (see https://www.unwomen.org/en/digital-library/publications/2019/08/discussion-paper-family-friendly-transfers-services-to-advance-gender-equality-womens-empowerment). All calculations are available from the authors upon request.

Admittedly, this is a crude measure, and the distribution of people living in poverty over different age groups in individual countries might differ considerably. For the aggregated index, however, this will not distort the estimates—at least, not beyond the level of uncertainty that accompanies all survey measures and inferences and the mentioned assumption on intra-household allocation of resources.

Income protection for children

States should guarantee basic income security for children aged 0-17 in order to enable their access to nutrition, education, care and other necessary services. Two scenarios are modelled: The first approach is targeted and estimates how much resources would need to be distributed to children living in poor households to guarantee basic income security; the second is a universal child benefit for which every child is eligible. The number of children in this age bracket is retrieved from *World Population Prospects* (UN DESA 2017). For both approaches, two alternative benchmarks for minimum income security are modelled: An absolute approach that considers each child needs at least $3.20 in 2011 PPP per day; and a relative approach that sets the minimum income requirement at 50 per cent of median income in a country. As outlined in the previous section, if this amount takes a value below $1.90 per day, the minimum income requirement is set at the extreme poverty line. Administrative costs are added based on estimates provided by the ILO. In the appendix of their study on costing social protection floors in 57 lower-income countries, Ortiz, Durán-Valverde et al. (2017) provided a comparative analysis of the administration costs of universal and targeted near cash (e.g., public works) social assistance schemes. Based on the observed trends, they suggested an administration cost assumption of 11 per cent of total expenditure for targeted near cash/cash benefits and of 3 per cent of total expenditure for universal near cash/cash benefits.

Moreover, in the case of the categorical approach, it is necessary to take into account that countries may already have transfers for children in place. In order to determine remaining gaps, current public social protection expenditure for children (2015 or most recent estimate)—not including health—as provided in the *World Social Protection Report 2017-2019* (ILO 2017), are deducted from the gross estimates. When no country estimates are available, values are imputed based on average expenditure in countries in the same region and income category.

Figures 2 to 5 summarize the estimated costs of closing protection gaps for children for the four different scenarios. As the country results vary greatly even within the same income groups and regions, the results are presented in the form of box plots throughout this report. The box represents the middle 50 per cent of countries with regard to the income protection gaps for children (as a percentage of GDP). The middle line is the median value. The line below and above the box represents the range for the bottom and top 25 per cent of countries respectively. The dots indicate outside values.[6] As the costs also differ greatly across scenarios, it is necessary to have a careful look at the y-axis for all scenarios.

For the first scenario, the median protection gap for all included countries is 0.2 per cent of GDP. This masks important differences across income groups and partly also regions (see Figure 2). Whereas there are almost no gaps in high- and upper middle-income countries in this scenario, the median gaps are 1.3 per cent in lower-middle- and 15.0 per cent in low-income countries. Particularly in low-income countries, however, the gaps differ widely. The middle 50 per cent of low-income countries would need to invest or reallocate between 10 and 30 per cent of their GDP to transfers targeted to children living in poor households. Median costs would be slightly higher in the second scenario, which takes a relative poverty line

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6   Outside values are values that are larger than the third quartile plus one and a half times the size of the box (which is the interquartile range) or smaller than the first quartile minus one and half times the size of the box.

with an income floor (0.3 per cent). However, the distribution changes (see Figure 3). Median gaps amount to 0.2, 0.3 and 0.5 per cent in high-, upper-middle- and lower-middle-income countries, respectively. The median gap in low-income countries in this scenario is 4.3 per cent yet still with considerable disparities across countries. Larger investments or reallocations of resources would be necessary if a categorical approach was used. Across all countries, the median gap would be 3 per cent of GDP if the benchmark was set at $3.20 per day in 2011 PPP or 4.3 per cent of GDP with a relative line.

FIGURE 2

Median income protection gaps for children, targeted approach, $3.20 in 2011 PPP per day, by region and income category, as a percentage of GDP, 2015
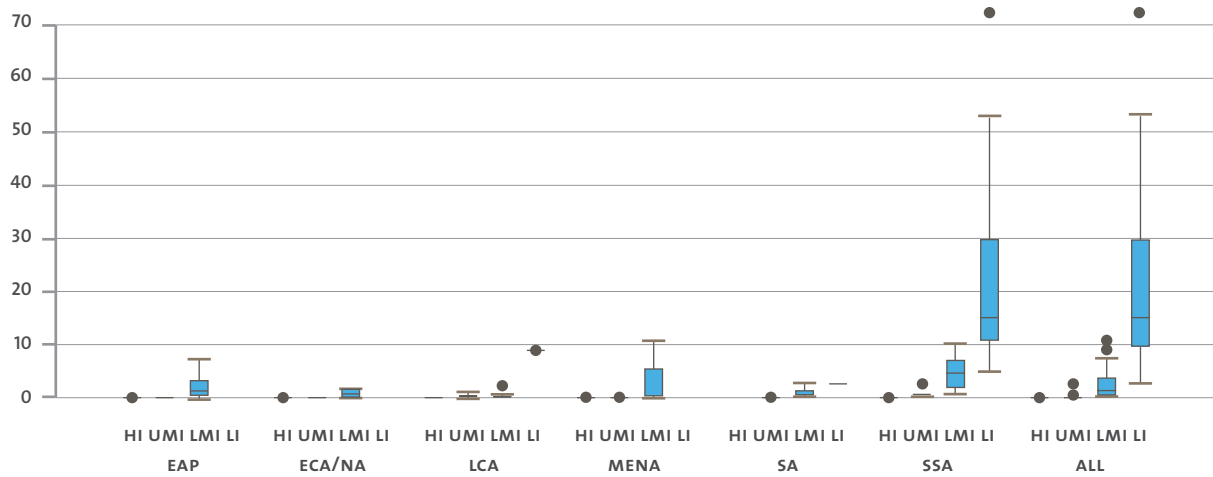
Note for all figures: HI = High-income, UMI=Upper-middle-income, LMI=Lower-middle-income, LI=Low-income, EAP=East Asia and the Pacific, ECA/NA=Eastern Europe and Central Asia/North America, MENA=Middle East and North Africa, LCA=Latin America and the Caribbean, SA=South Asia, SSA=sub-Saharan Africa.

FIGURE 3

Median income protection gaps for children, targeted approach, 50 per cent of median income (with income floor), by region and income category, as a percentage of GDP, 2015
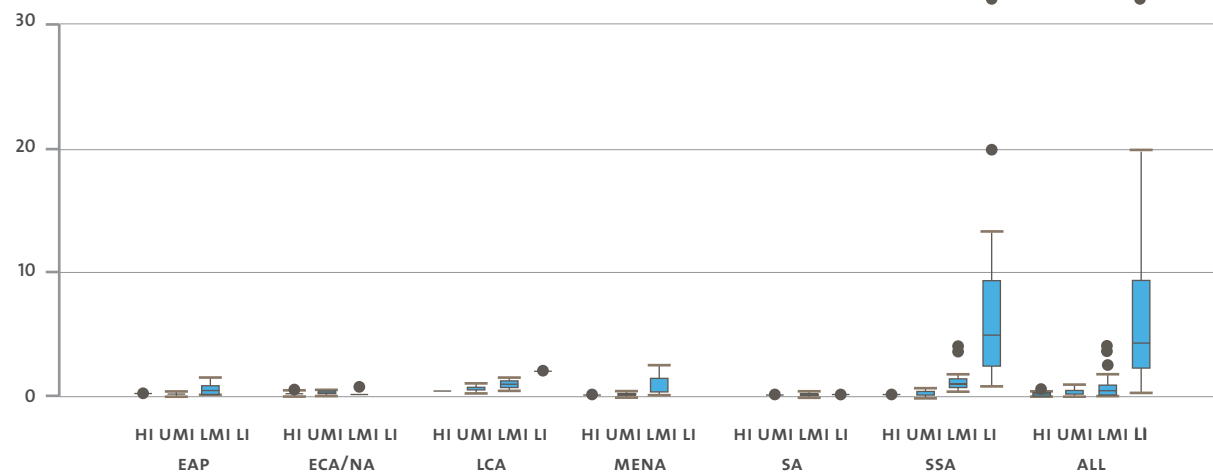
FIGURE 4

Median income protection gaps for children, categorical approach, $3.20 in 2011 PPP per day, by region and income category, as a percentage of GDP, 2015
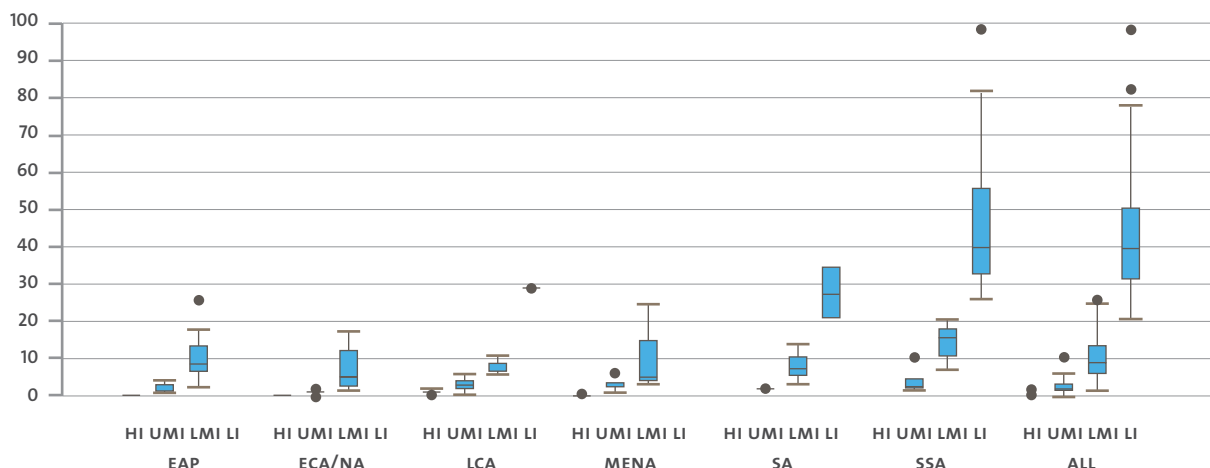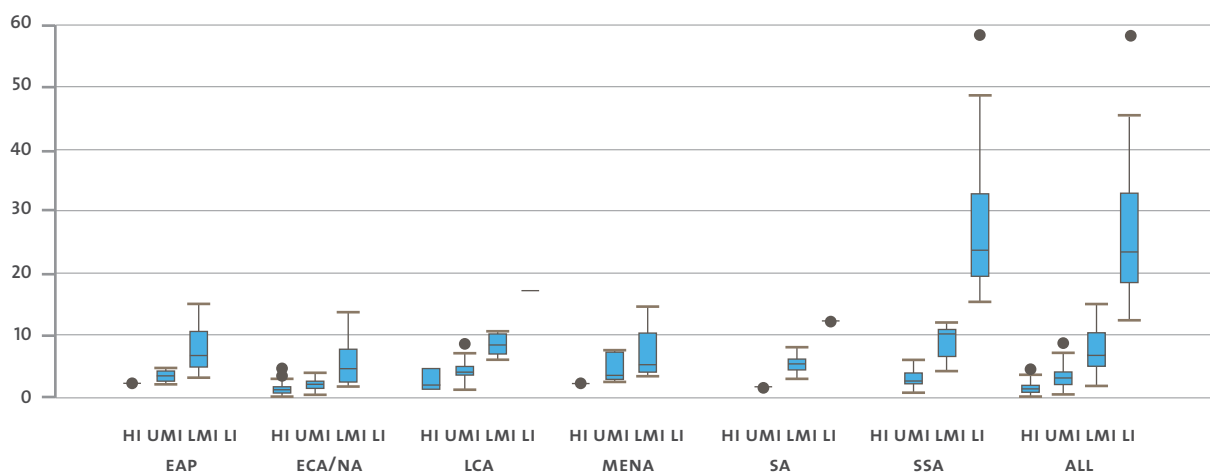

FIGURE 5

Median income protection gaps for children, categorical approach, 50 per cent of median income (with income floor), by region and income category, as a percentage of GDP, 2015

2.3

People of working age

Women and men of working age commonly secure income security through participation in the labour market. However, a range of contingencies can prevent an individual from earning a living, including unemployment, maternity or parental leave, or disability. In addition, despite labour market participation, incomes might not be sufficiently high or stable to prevent poverty and/or social exclusion. What this means is

that income security during working age is affected by a number of policies: labour market and employment policies; employment protection and gender equality in employment; wages (including minimum wages) and collective bargaining; active labour market policies; and policies to support people with care responsibilities (ILO 2017). The costing of gaps in income security for people of working age should

be understood against this background, namely, that social protection schemes and social transfers alone cannot achieve income security for women and men of working age.

The targeted approach for persons of working age who are unable to earn a sufficient income follows that outlined for children living in poor households. The absolute approach takes $3.20 in 2011 PPP per day as a benchmark and the relative approach sets the poverty cut-off at 50 per cent of median income in the respective country, with an income floor set at $1.90 in 2011 PPP if applicable. Administrative costs are assumed to amount to 11 per cent of total costs.

The categorical approach models three benefits for people of working age: unemployment benefits, maternity and parental benefits, and disability benefits, the latter including an extra mobility allowance. For people of working age who were previously employed in the formal sector and participated in contributory schemes, benefit amounts are typically linked to the wages they previously earned. A substantial share of individuals, however, is either outside the labour force (e.g., students, housewives) or employed in informal jobs and not contributing to formal schemes. For the costing, we therefore make a distinction between people who are inside and outside the labour force, as indicated by the labour force participation rates for individuals of working age (or reproductive age, in the case of maternity and parental benefits). In addition, among those individuals that belong to a country's labour force, the share of informal employment in total employment is taken into account. In detail, the categorical benefits are modelled as follows.

(a) Unemployment benefits

The number of unemployed individuals in a country is calculated based on the unemployment rate (ILO estimates)[7] and the size of the total labour force (aged 15 or above). Both indicators refer to 2015 and are retrieved from the World Development Indicators

database (World Bank 2018b). The share of informal employment in total employment is retrieved from a recent ILO report on women and men in the informal sector (ILO 2018b, pp. 85-90, Table B.1) that presented results by sex for 112 countries.[8] For the remaining countries in our sample, missing values are imputed based on the average value of countries in the same region and income category.

For the proportion of individuals assumed to have been employed in the formal sector, the benefit amounts to two thirds of average wages in a country. Mean nominal monthly earnings of employees (harmonized series, in constant 2011 PPP $) are retrieved from the ILOSTAT database (ILO 2018c). In this case, data are available for 98 countries. The calculations are based on the most recent estimates up to 2015. Estimates earlier than 2015 are adjusted by GDP per employed growth (based on data on GDP per employed in constant 2011 international $), as retrieved from the World Development Indicators database (World Bank 2018b). Figures for countries for which data are not available are imputed based on the ratio of average wages to GDP per capita and by income category of the country. The ratio is 0.9 for high-income countries, 1.2 for upper-middle-income countries, 1.6 for lower-middle-income countries and 4.2 for low-income countries. For unemployed individuals in the informal sector, the benefit amount is set to $3.20 in 2011 PPP per day or 50 per cent of median survey income (but at least $1.90 in 2011 PPP per day), depending on the scenario.

(b) Maternity benefits

The number of women who give birth in a given country is calculated based on country-specific crude birth rates per 1,000 person in 2015 as provided in the World Development Indicators database (World Bank 2018b) and the population in 2015 (UN DESA 2017). Every woman who has given birth is eligible for maternity benefits. Based on the labour force participation rates for women aged 15-49 in 2015 (retrieved from ILOSTAT), the number of mothers in the labour force

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7   According to the ILO, the unemployed comprise all persons of working age who are without work during the reference period, are currently available for work and are seeking work.

8   Table B.1 provides information on both the share of informal employment in total employment and in non-agricultural employment by sex. For the costing, the figures on informal employment in total employment are used.

is calculated. These women might either work in the formal or the informal sector. The absolute numbers are calculated based on the share of informal employment in total employment for women. Women in the formal sector are eligible to receive two thirds of their previous earnings. Average wages for women are taken from ILOSTAT. Adjustments and imputations were done in line with the approach described above. For women outside the labour force or women in the informal sector, maternity benefits amount to $3.20 in 2011 PPP per day or 50 per cent of survey median but not less than $1.90 in 2011 PPP per day. In line with the most up-to-date standards on maternity protection, the Maternity Protection Convention, 2000 (No. 183), maternity benefits are granted for 14 weeks.

Maternity benefits are complemented by parental benefits that are accessible for an additional 12 weeks. These two benefits in combination add up to 26 weeks and thereby correspond to the WHO recommended minimum period of breastfeeding. This is also a period in which babies need very high levels of care. Parental benefits are estimated in the same way as maternity benefits, with the exception that both parents can opt to take them up. Calculations are therefore based on labour force participation rates of both women and men (aged 15-49), and benefit amounts are estimated in relation to average wages in a country. This might overestimate the costs for this component to a certain extent, as women are assumed to be more likely to take up parental benefits than men.

(c) Disability benefits

As outlined in the *World Report on Disability* (WHO 2011), measurement of such a complex multidimensional experience as disability is challenging. Differences arise, for instance, depending on the purpose of the measurement or the aspects of disability considered. Beyond that, estimates can be influenced by the design of questionnaires, the way in which answers are reported or the underlying purpose of the survey (e.g., general survey or specific health survey). It is therefore not surprising that estimates of the prevalence of disability vary widely across countries, which subsequently leads to serious challenges and limitations regarding the comparability of estimates.

In developing countries that tend to rely on census data and focus on a limited number of impairments, the reported disability prevalence is low. Countries that report higher rates might base these estimates on household surveys and take into account a broader range of impairments and activity limitations. Standardization attempts are underway, yet definitions and methodologies still vary widely. For these reasons, it has been decided to use global estimates of disability prevalence rather than country-reported prevalence.

There are two main data sources to estimate global disability prevalence: The World Health Survey and the WHO Global Burden of Disease study (WHO 2008). According to WHO (2011), the latter estimates are highly uncertain as they rely on data that are fragmented, inconsistent or only partially available (see Technical Appendix D for further details). *The World Health Survey*, on the other hand, builds on a consistent framework to enhance comparability. Self-reported responses to difficulties in functioning are rated on a scale from 0 (no disability) to 100 (complete disability). A threshold of 40 indicates significant difficulties in everyday lives and a threshold of 50 very significant difficulties. Despite the virtues of a consistent conceptual framework, these data have limitations as well. It has been debated what is the best way to set thresholds or what explains country-variations in self-reported difficulties (see WHO 2011 Technical Appendix C for more details).

Technical Appendix A in the report (WHO 2011) lists country estimates, yet coverage is limited (55 countries), and there are no country-specific estimates by age groups and severity of disability. This, however, is important for these calculations as the prevalence of disability is higher among older persons than among people of working age. The calculations therefore use the average prevalence of very significant disability in the age groups 18-49 and 50-59, with the additional distinction between high- and low-income countries. It is assumed that, depending on the age bracket, 0.5 per cent (18-49) and 1.7 per cent of the population (50-59) in a high-income country is not able to earn their living due to very significant impairments, and 0.8 per cent (18-49) and 2.7 per cent (50-59) of the population in lower-income countries (WHO 2011, p. 28).

As in the case of parental benefits, the share of persons inside the labour force among this group is estimated based on the labour force participation rate (among the 15-64 age group). Among persons in the labour force, the number of individuals who work in the informal sector is calculated based on the share of informal employment in total employment. Formal workers living with a disability receive two thirds of average wages. Persons outside the labour force or people living with a disability in the informal sector receive a benefit amount equal to the absolute poverty line set at $3.20 in 2011 PPP per day or 50 per cent of median survey income (but not less than $1.90 in 2011 PPP per day).

Moreover, we add an extra mobility allowance for disability in addition to the above cash benefits. The mobility allowance is calculated based on the assumption that in long-term care (LTC) schemes, 80 per cent of costs are staff-related and 20 per cent are non-staff-related.[9] The latter 20 per cent are assumed to be spent, most importantly, on the additional needs of people living with a disability, such as mobility. In order to determine the benefit amount as a share of GDP, the following approach is used: A beneficiary-to-formal care worker ratio of 3:1 is assumed. Formal care workers are assumed to earn average wages.[10] The product of the number of formal care workers times the average salary, expressed as a percentage of GDP, represents 80 per cent of the total costs. Then 20 per cent of total costs (which is 25 per cent of staff costs) are added to the categorical benefit as an extra care allowance.

With the categorical approach, people of working age are only covered if they fall into one of the three categories of unemployment, maternity/paternity or disability. However, it can still happen that people are living on less than $3.20 per day in 2011 PPP,

or below a relative poverty line, despite being in employment. Possible reasons are low wages in the formal or informal sector or large dependency ratios within households. In the categorical approach, these problems would need to be fixed by complementary measures, namely minimum wages and an additional social assistance scheme. The latter would marginally increase the overall cost of the entire categorical benefit system. However, it needs to be ignored here as we have no figures on the number of people living in poverty despite working or on their income gap in relation to an absolute or relative poverty threshold.

Administrative costs are added that are assumed to amount to 3 per cent of total expenditure for all categorical benefits. The final step is to consider the resources that countries are currently spending on benefits for persons of working age. Such public social protection expenditure (without health, including general social assistance, 2015 or most recent estimate), as provided in the *World Social Protection Report 2017-2019* (ILO 2017), is deducted from the gross estimates. When no country estimates are available, values are imputed based on average expenditure in countries in the same region and income category.

The results for the four different scenarios are summarized in Figures 6 to 9. For the scenarios that use a targeted approach, the same patterns as for children emerge, with relatively small gaps in high, upper-middle- and lower-middle-income countries and large gaps in lower-income countries. In the latter case, the size of the gaps again varies greatly. Using a categorical approach, protection gaps are considerably smaller for people of working age than for children. In the scenario with the $3.20 per day in 2011 PPP line, the median protection gap across all countries is 0.5 per cent of GDP, and 0.6 per cent of GDP if a relative line is used.

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9   See section 5.
10 For nearly all countries for which we have data, average wages are above minimum wages. We decided to set a normative standard for wages in this sector equal to average wages.

FIGURE 6

Median income protection gaps for people of working age, targeted approach, $3.20 in 2011 PPP per day, by region and income category, as a percentage of GDP, 2015
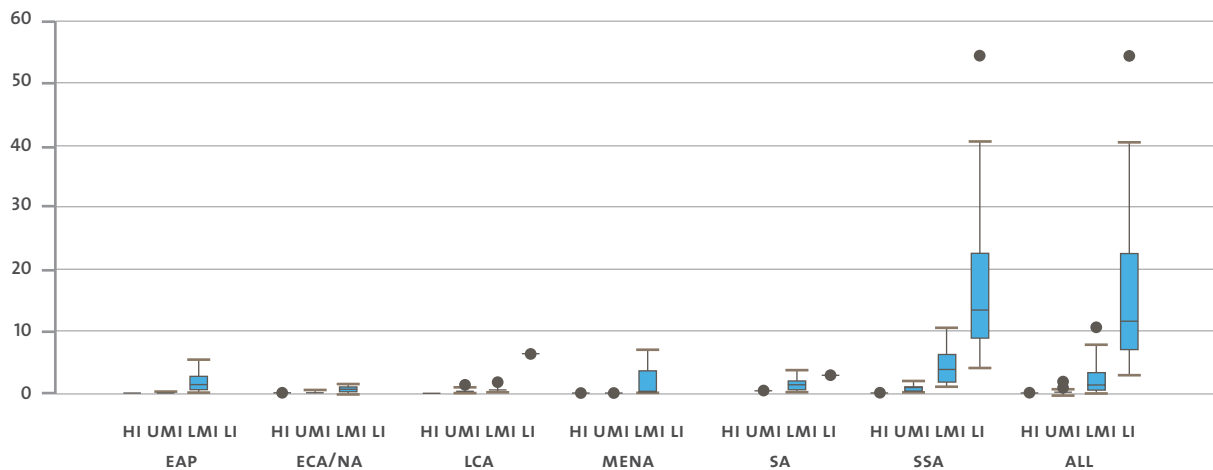

FIGURE 7

Median income protection gaps for people of working age, targeted approach, 50 per cent of median income (with income floor), by region and income category, as a percentage of GDP, 2015
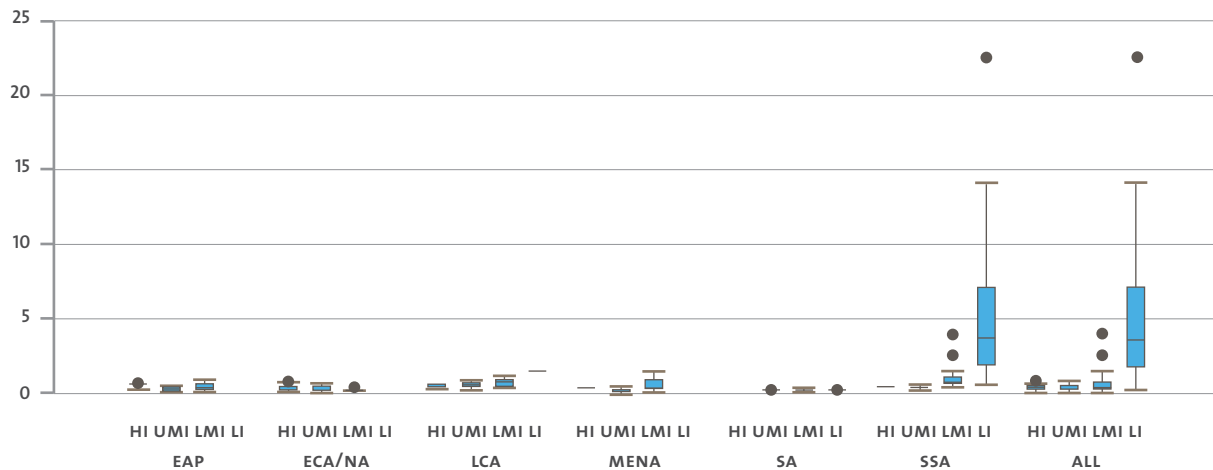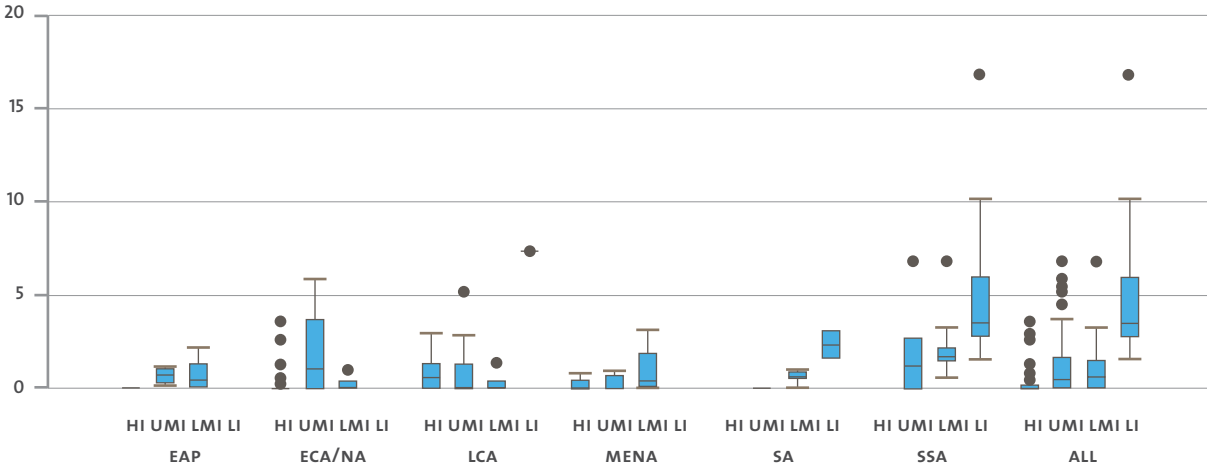
FIGURE 8

Median income protection gaps for people of working age, categorical approach, $3.20 in 2011 PPP per day, by region and income category, as a percentage of GDP, 2015
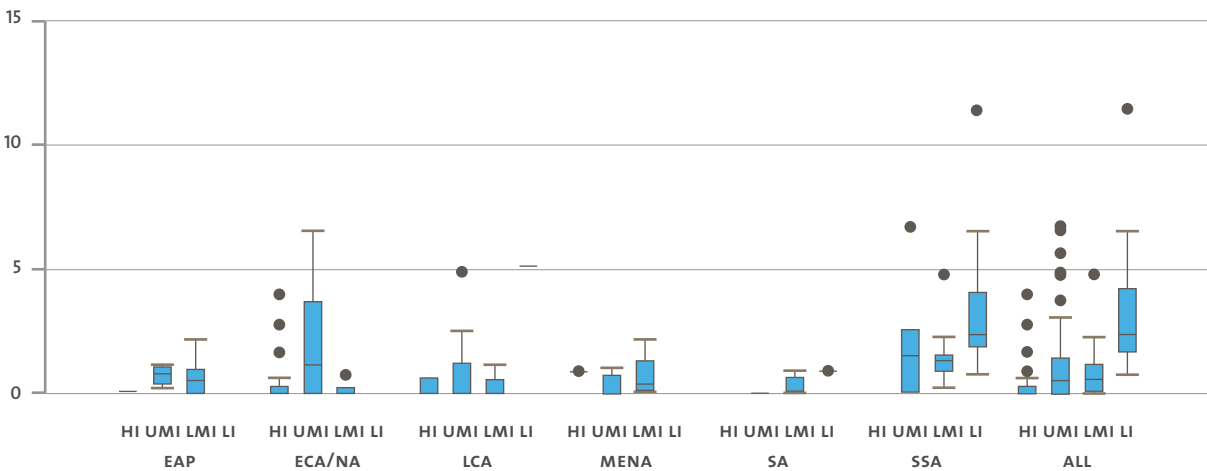
FIGURE 9

Median income protection gaps for people of working age, categorical approach, 50 per cent of median income (with income floor), by region and income category, as a percentage of GDP, 2015

2.4

Older women and men

The assumptions for modelling benefits for older persons in order to guarantee basic income security are in line with the approach for social transfers for children. Again, both a universal and a targeted approach are considered. Likewise, two different benefit amounts are modelled, namely $3.20 in 2011 PPP per day and an amount equivalent to 50 per cent of

median income in a given country, with an income floor at $1.90 per day in 2011 PPP if needed. It is assumed that administrative costs amount to 11 per cent of total expenditure for the targeted approach and 3 per cent for the categorical old-age grant. Net gaps for the categorical approach are determined by deducting current expenditure on older persons

from the gross estimate. These figures are derived from the *World Social Protection Report 2017-2019* (ILO 2017). Missing values are imputed based on the average value of countries in the some region and income category.

A summary of results of the four scenarios by income classification and region is shown in Figures 10 to 13.

Compared to the protection gaps for children and people of working age, income protection gaps for older persons are small. The median value for all countries in all scenarios is 0.0 per cent. This masks some disparities across income groups. Lower-middle- and low-income countries would still have to invest or re-allocate resources in order to guarantee income security in older age.

FIGURE 10

Median income protection gaps for older persons, targeted approach, $3.20 in 2011 PPP per day, by region and income category, as a percentage of GDP, 2015
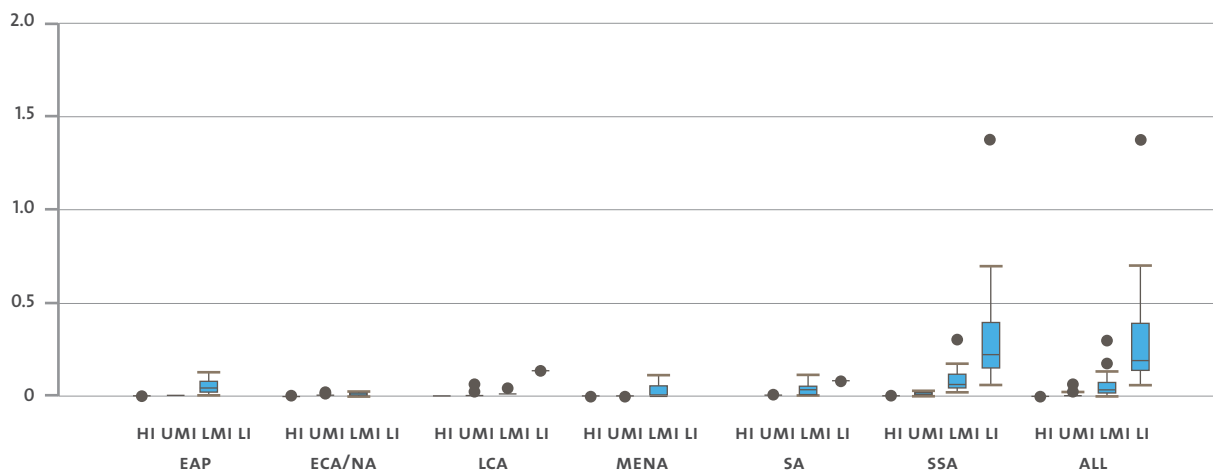

FIGURE 11

Median income protection gaps for older persons, targeted approach, 50 per cent of median income (with income floor), by region and income category, as a percentage of GDP, 2015
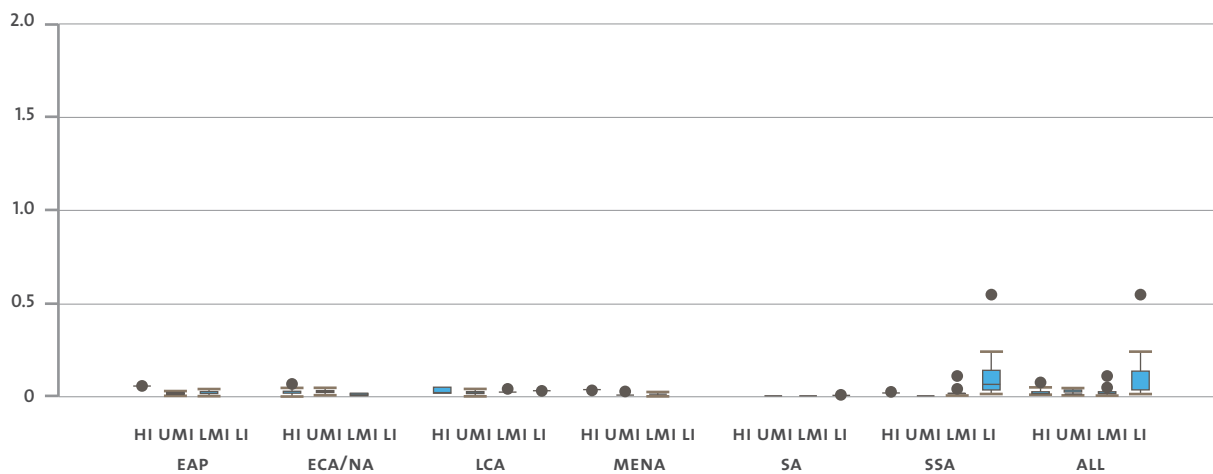
FIGURE 12

Median income protection gaps for older persons, categorical approach, $3.20 in 2011 PPP per day, by region and income category, as a percentage of GDP, 2015
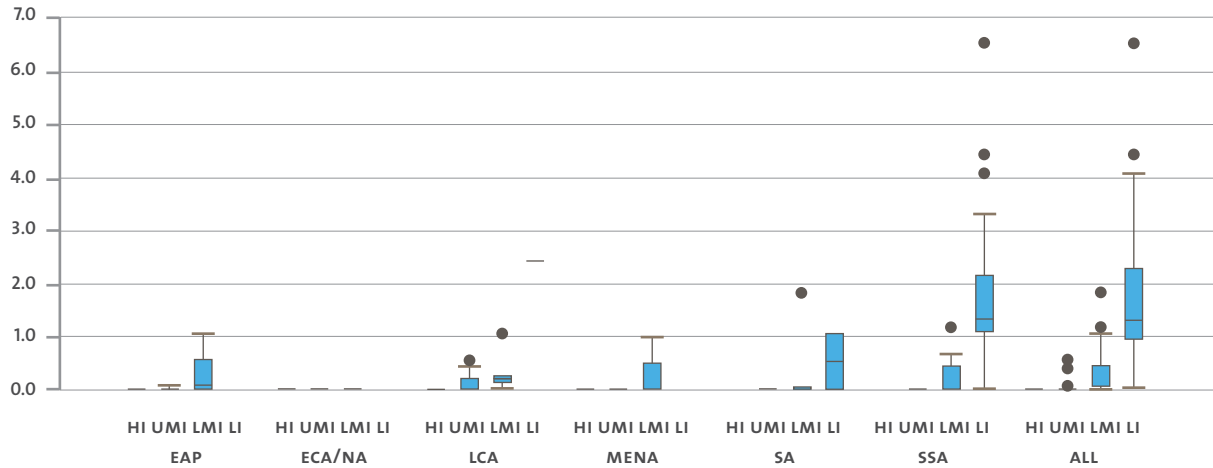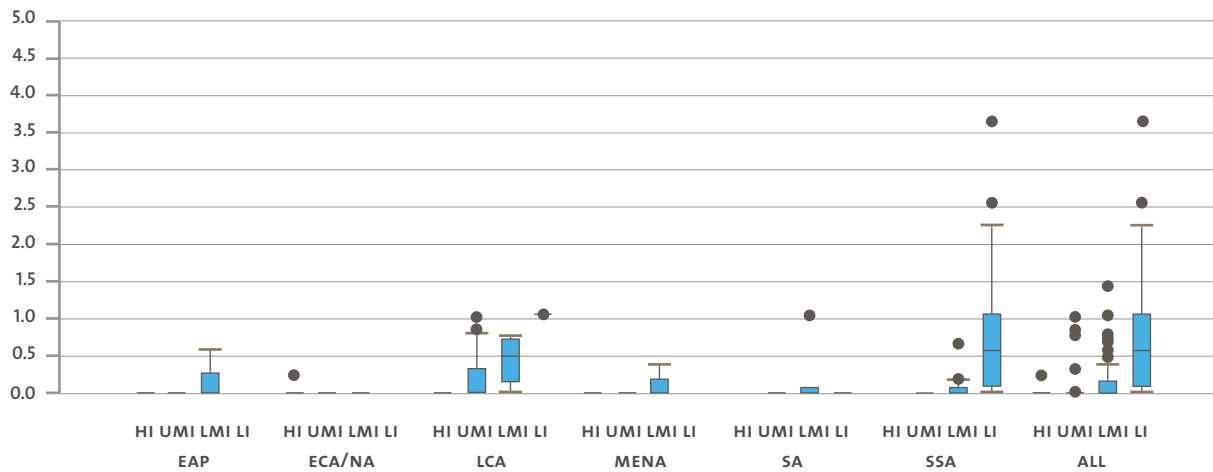

FIGURE 13

Median income protection gaps for older persons, categorical approach, 50 per cent of median income (with income floor), by region and income category, as a percentage of GDP, 2015

3.

HEALTH

The approach for costing gaps in access to essential health services is based on the method used in the Social Protection Floor Index (Bierbaum et al., 2016; Bierbaum et al., 2017). The aim is to assess to what extent individuals have "access to a nationally defined set of goods and services, constituting essential health care, including maternity care, that meets the criteria of availability, accessibility, acceptability, and quality"––one of the four basic social security guarantees outlined by Social Protection Floors Recommendation 202 (International Labour Conference 2012). The establishment of an indicator that measures these criteria in a combined, internationally comparable manner is challenging. Whereas it is relatively easy to measure the physical availability of health infrastructure, it is much harder to know to what extent these services are de facto accessible for the population across all age groups, ethnicities or regions. In a related vein, legally granting universal access to health care does not necessarily mean that there are no physical or financial barriers or discrimination that prevent people from accessing these services.

Gaps in health protection are therefore estimated based on two indicators that assess the adequacy of the overall public resources allocated to health-care systems as well as the allocation of these resources within the systems. First, expenditure adequacy is assessed against a benchmark that defines what share of its GDP expenditure at the very least a country has to allocate to health to be theoretically able to provide essential health care. We decided to use only public health expenditure as the distribution of private health expenditure is normally highly skewed towards higher-income groups and does not necessarily contribute to closing gaps in universal coverage. WHO argues that public spending on health is central to the achievement of universal health coverage (Xu et al., 2018). General government health spending as a percentage of GDP is an indicator of both the capacity and the political will of a government to protect its population against the costs of care (WHO 2010, p. 98).

As a substantial share of public health expenditure is spent on labour costs, this benchmark is empirically derived by considering what share of GDP is spent on

domestic general government health expenditure by countries with an average medical staffing ratio and where at least 95 per cent of births are attended by skilled personnel (see second benchmark described below). The most recent estimates (from 2005 to 2015) of physicians, nurses and midwives per 1,000 persons, as reported in the World Development Indicators database (World Bank 2018b), are used to calculate the average staffing ratio. Data are available for 176 countries. On average, there are 6.1 physicians, nurses and midwives per 1,000 persons. Staffing ratios vary widely among countries, as indicated by a standard deviation (a measure of the typical distance from the mean) of 5.4. For calculating the expenditure benchmark, data on health expenditure of all countries with a staffing ratio between 3.4 and 8.8 physicians, nurses and midwives per 1,000 people (mean ± 0.5 standard deviation) and with skilled personnel attending at least 95 per cent of all births are used. These criteria are met by 45 countries, with expenditure ranging from 1.5 per cent in Turkmenistan (7.1 physicians, nurses and midwives per 1,000 persons) to 7.3 per cent in Kiribati (4.8 per 1,000). The arithmetic mean of domestic general government

health expenditure (retrieved from World Bank 2018b) is 3.5 per cent of GDP. This amount serves as the first benchmark, the so-called 'adequacy benchmark'.

Second, the share of births in a country attended by skilled health personnel is taken into account. If this is less than 95 per cent of births, it is assumed that resources are not allocated in a way that ensures availability, accessibility, acceptability and quality of maternity health care. Data on skilled birth delivery is retrieved from the joint UNICEF/WHO database (2018). For high-income countries for which data are not available, we assume that the allocation benchmark is met.

Data are available for 215 countries. We use estimates from 2015 or the most recent year before that. If a country's birth attendance rate is lower than this benchmark, the share of GDP that would need to be allocated towards the health care system to close this gap is estimated. For instance, if 85 per cent of births are currently attended by skilled personnel, there is a gap of 10 percentage points. As we assume that 3.5 per cent of GDP should be sufficient to guarantee that all births are attended by skilled personnel, a country would need to (re-)allocate 0.35 per cent of its GDP to close this gap. The final health gap is either the resource gap or the allocation gap, depending on which is larger.

Skilled birth attendance has been chosen as an indicator for allocation adequacy of resources as the Social Protection Floors Recommendation explicitly mentions maternity care. In order to further justify the use of this indicator, we looked at the correlations between the share of births attended by skilled personnel and 15 health input and output indicators that refer to sexual and reproductive health and rights (SRHR). SRHR are fundamental to sustainable development in general and people's health and survival more specifically (Starrs et al. 2018). Commonly recognized components of sexual and reproductive health (SRH) are contraceptive services, maternal and newborn care, and prevention and treatment of HIV/AIDS. Correlations between skilled birth delivery and indicators of contraceptive use, prenatal care and maternal, neo-natal, infant and under-5 mortality rates are high. Furthermore, there are moderate correlations of skilled birth attendance and indicators of antiretroviral therapy coverage, women making informed decisions regarding sexual relations and, finally, the proportion of women subjected to physical and/or sexual violence (see Table 3).

Correlation between share of birth attended by skilled personnel and 15 health input and outcome indicators

	Contraceptive prevalence, any methods (% of women aged 15-49)	Contraceptive prevalence, modern methods (% of women aged 15-49)	Unmet need for contraception (% of married women aged 15-49)	Pregnant women receiving prenatal care (%)	Pregnant women rec. prenatal care for at least 4 visits (% of pregnant women)
Correlation between skilled birth attendance and indicator	0.628	0.523	-0.532	0.751	0.410
Significance level	0.000	0.000	0.000	0.000	0.000
Number of observations	165	156	129	164	135

	Maternal mortality ratio (national estimate, per 100,000 live births)	Maternal mortality ratio (modelled estimate, per 100,000 live births)	Mortality rate, neonatal (per 1,000 live births)	Mortality rate, infant (per 1,000 live births)	Mortality rate, under-5 (per 1,000 live births)
Correlation between skilled birth attendance and indicator	-0.760	-0.774	-0.770	-0.782	-0.806
Significance level	0.000	0.000	0.000	0.000	0.000
Number of observations	151	173	181	181	181
	Antiretroviral therapy coverage (ATC) (% of people living with HIV)	ATC (% of pregnant women living with HIV)	Prevalence of syphilis (% of women attending antenatal care)	Women making own informed decisions reg. sexual relations, contraceptive use and reproductive health care (% of women, 15-49)	Proportion of women subjected to physical and/ or sexual violence in the last 12 months (% of women, 15-49)
Correlation between skilled birth attendance and indicator	0.343	0.392	-0.141	0.538	-0.426
Significance level	0.000	0.000	0.106	0.000	0.000
Number of observations	126	102	133	45	81

Figure 14 summarizes the median gaps in health protection by regions' and countries' income classification. The median gap across all countries is 0.4 per cent of GDP. Whereas there are normally no health gaps in high-income countries, median gaps become consistently larger for upper-middle- (0.2 per cent of GDP), lower-middle- (1.5 per cent of GDP) and low-income countries (2.4 per cent of GDP). However, health gaps differ greatly across countries within the same income group. For lower-middle-income countries, for instance, the middle 50 per cent of countries have gaps between 0.4 and 2.2 per cent of GDP.

FIGURE 14

Median health gaps, by region and income category, as a percentage of GDP, 2015
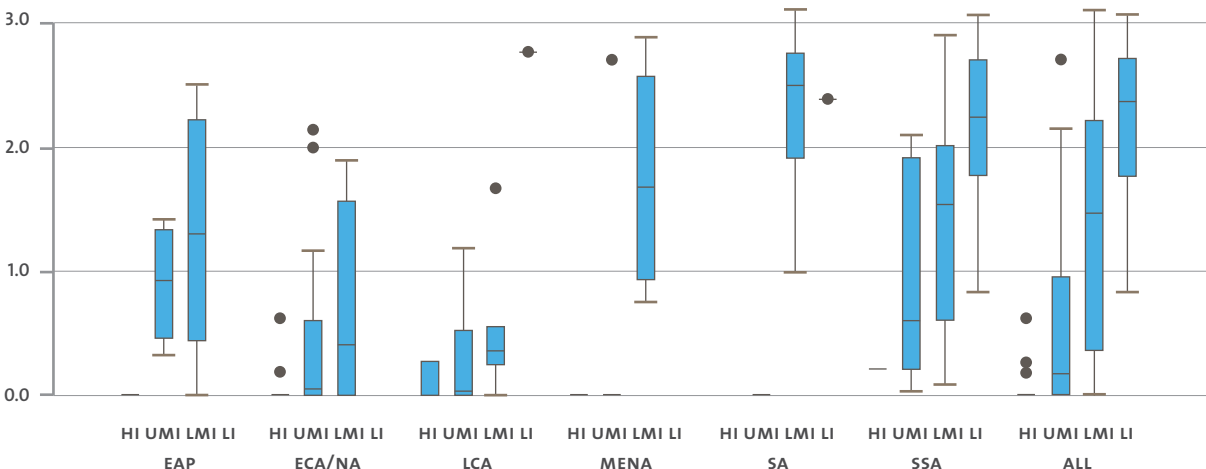
4.

EARLY CHILDHOOD CARE AND EDUCATION

The 2018 ILO report on *Care Work and Care Jobs for the Future of Decent Work* (ILO 2018a) defines ECCE in the following way: "Early childhood care and education (ECCE) services include services and programmes that support children's survival, development and learning from birth to entry into primary school, typically centre- or home-based, as well as workplace services. A distinction is made between early childhood educational development (ECED, for 0–2 years of age) and pre-primary programmes (3 years to school entry age)" (p. 114). The costing of this component is based on the policy targets set out in this ILO report. Internationally recognized guidelines do not exist yet, but two key aspects of quality care are the teacher-student ratio and minimum salaries for teaching staff.

The policy targets set in this report refer explicitly to a broad reading of the SDGs and guidelines by the ILO (see ILO 2013) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) (see Shaeffer 2015; Wils 2015). The report provides a clear rationale for each policy target (for instance, good practices in Nordic countries) and states coherent guidelines for a wide range of countries in line with their income category. The assumptions for costing the ECCE component are the following.

- **Enrolment rates:** Two age groups are considered separately:
  - 50 per cent for 0-2-year-olds
  - 100 per cent for 3-5-year-olds.

The different policy targets take into account the role of home-based care in the early years of childhood and increasing enrolment in formal institutions in subsequent years.

- **Children-to-teacher ratio:** In order to guarantee quality of care, the following ratios are aimed at:
  - 10:1 for 0–2-year-olds
  - 15:1 for 3–5-year-olds.

- **Salary of teaching staff:** Considerations for remuneration are a decent standard of living, comparability with similar jobs in primary education and job responsibilities. A difference is made by a country's income level.
  - Low- and lower-middle-income countries: 4.5 times GDP per capita
  - Upper-middle- and high-income countries: average salary of tertiary educated workers.

If current standards are higher in a country, these standards are sustained. The average salaries for tertiary educated workers are derived from OECD estimates provided in *Education at a Glance 2017* (OECD 2017). Indicator D.3 looks at how much teachers are paid and how this compares to tertiary-educated workers—full-time, full-year workers with tertiary education, International Standard Classification of Education (ISCED) 5 to 8—in 2015. Based on teachers' actual salaries and the ratio between teachers' actual salaries and the salaries of tertiary-educated workers, the average salaries of tertiary-educated workers are derived and expressed in relation to GDP per capita. The average ratio between salaries of tertiary-educated workers and GDP per capita is 1.3. This ratio

is used to impute values for high-income and upper-middle-income countries for which no estimates are available. Finally, in addition to staff-related costs, it is assumed that non-staff related costs amount to 20 per cent of total expenditure. According to the UNESCO Institute of Statistics database (UIS 2018), median expenditure other than staff compensation as a percentage of total expenditure in pre-primary education amounted to 19.8 per cent in 2015 (sample of 69 countries). The median in the high-performing Nordic countries of Denmark, Finland, Sweden and Norway is 23 per cent.

The costing takes into account that some countries already dedicate resources to ECED programmes and pre-primary education. Government expenditure on pre-primary education in 2015 is retrieved from the UIS.Stat database (UIS 2018). If estimates are missing in a country, expenditure is imputed based on the average value of countries in the same region and income category. Data availability on ECED programmes is more limited. For OECD countries, public spending on childcare and early education in 2015 is taken from the estimates published in *Education at a Glance* (OECD 2017). For countries in which no

children are enrolled in ECED programmes (according to the UIS.Stat database and based on imputations of the average value of countries in the same region and income category), it is assumed that nothing is spent on ECED. For the remaining countries, the enrolment rates in 2015 or the most recent available year are looked at. If more than 10 per cent of children in this age bracket are enrolled in public ECED institutions—which reflects the median value in OECD countries that have ECED programmes—expenditure is set at 0.3 per cent of GDP, which is the median spending in these countries. Current spending on ECED and pre-primary education is deducted from the gross estimates.

The final gaps are summarized in Figure 15. The median gap in ECCE is 1.3 per cent of GDP. In lower-middle- and low-income countries, it amounts to 4.3 and 6.2 per cent, respectively. There are also regional disparities. In the Europe and Central Asia region, for example, the median gap for low-income countries (6 countries in the our sample) is 2.8 per cent. In sub-Saharan Africa, gaps in ECCE for the 13 countries in the same income category are considerably larger, with a median value of 5.8 per cent of GDP.

FIGURE 15

Median gaps in ECCE, by region and income category, as a percentage of GDP, 2015
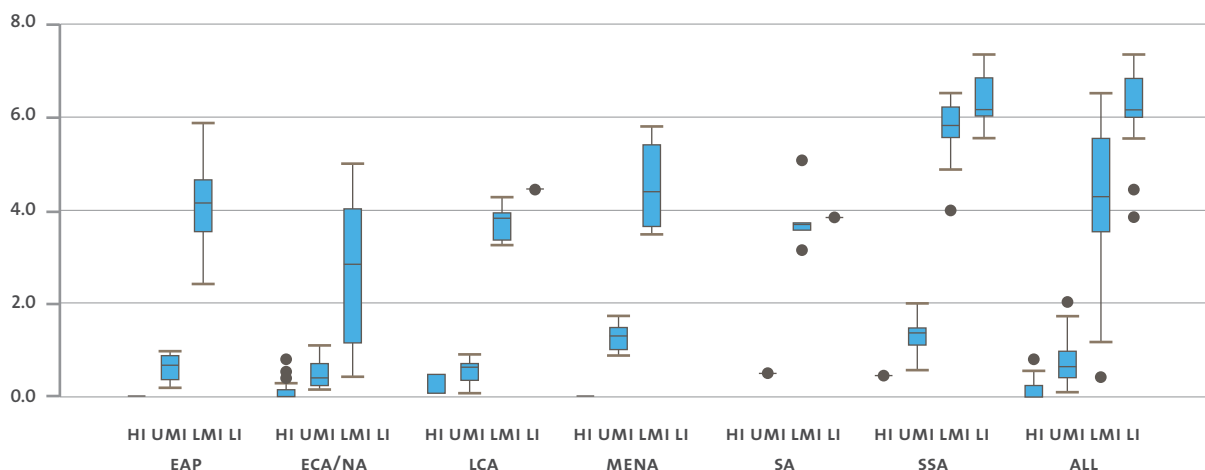
5.

LONG-TERM CARE SERVICES

In addition to ECCE, demographic ageing and growing numbers of elderly people with physical or mental incapacities will lead to serious challenges as increasing shares of the population are in need of long-term care (LTC) services. LTC includes "services and policies that support people with long-term care needs, such as sick or older people and people with disabilities, in their daily living. Services are typically provided at home or in institutions" (ILO 2018a, p. 114).

LTC needs have been widely neglected by policymakers across the globe, partly related to the perception in both developed and developing countries that typically female family members can provide care 'for free' as well as the widespread stereotype that women actually should do so (Scheil-Adlung 2015). Furthermore, as also noted in Scheil-Adlung's study, the neglect may be related to discrimination or negative attitudes towards older persons (ibid.). The non-availability of public LTC services disregards the fact that these services require professional, skilled personnel, the consequences of foregone incomes of caregivers and related risks of impoverishment and the shrinking availability of female carers due to increased labour force participation and changes in retirement policies.

As is done in the case of ECCE, the assumptions for these costing components are guided by the 2018 ILO report on *Care Work and Care Jobs for the Future of Decent Work*. Again, there are no internationally agreed guidelines or policy targets. Benchmarks are therefore set by looking at high-performing countries. The following assumptions are made with regard to staff-related costs:

- **Coverage:** The number of people in need of care is based on the years of healthy life expectancy at age 60 in 2015, as provided by WHO (2018). It is assumed that, on average, everybody in the country who is beyond the age of healthy life expectancy is in need of care.

- **Beneficiary-to-care ratio:** It is assumed that one formal care worker can take care of three beneficiaries.

- **Salary of formal care workers:** The ILO report estimates the costs of closing the wage gap between nurses and personal care workers. As these data are not widely available, the target for care workers' wages is the level of average wages in a country. This is approximately the level of wages for skilled LTC workers. Currently, most workers with basic qualifications in OECD countries receive considerably less, namely between 50 and 75 per cent of national average wages (Scheil-Adlung 2015). We adopt a normative benchmark that aims to achieve decent wages, as caring should be paid fairly.

Different from the ILO report, this costing considers also non-staff-related costs. It is assumed that staff costs represent 80 per cent of the total costs and non-staff costs 20 per cent.[11] Data on current expenditure on LTC services (as well as LTC coverage and the workforce) are very scarce, mostly due to the fact that the vast majority of countries do not consider it a public responsibility to cater for these needs. For the 44 countries for which estimates are available, the current spending on LTC (Scheil-Adlung 2015) is deducted from the estimated total costs. For the remaining

countries, it is assumed that spending amounts to 0 per cent of GDP.

The results of the costing of this component by income classification and region are summarized in Figure 16. Median protection gaps amount to 1.0 per cent of GDP in upper- and lower-middle-income countries. In high-income countries, the median gap is 1.6 per cent of GDP, which also reflects, among other factors, the larger share of older persons in these societies.

FIGURE 16

Median gaps in LTC services, by region and income category, as a percentage of GDP, 2015
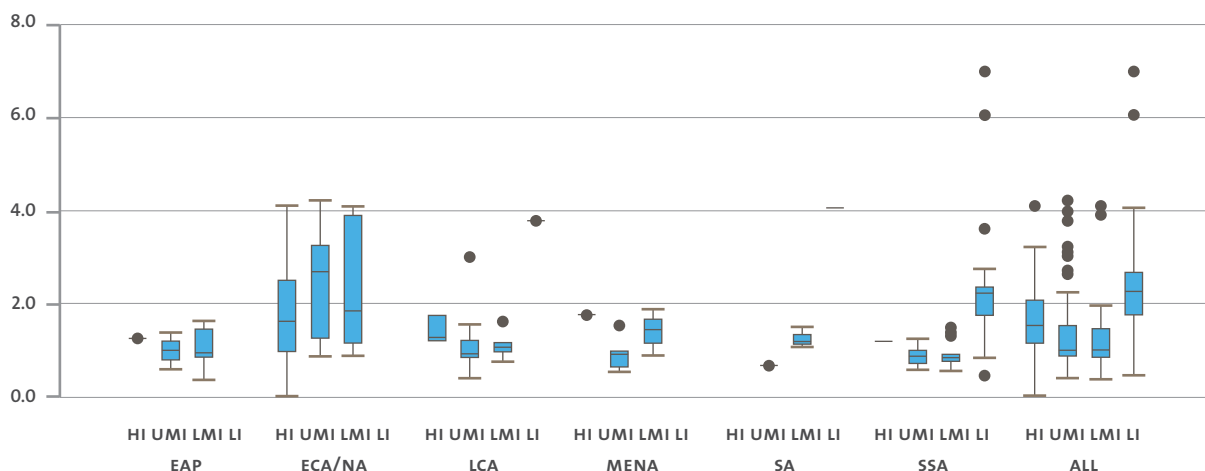
11   Health statistics on this aspect are scarce. According to those provided in OECD.Stat (input costs for health-care provision), however, the share of employee costs in total long-term residential care costs amounted to 75 per cent in Finland and 78 per cent in the United States in 2015.

6.
SUMMARY OF RESULTS

As all the components are expressed as a share of a country's GDP, the total cost of the package of family-friendly transfers and services is calculated by simply adding up the respective gaps in income security, health security, ECCE and LTC. The results are presented in three ways. First, an overview over the magnitude of protection gaps is provided. Second, it is considered what share the different transfers and services contribute to the total costs of the package. Finally, an overview is presented that looks at the number of countries by resource needs.

Figures 17 to 20 provide an overview of the total costs for the four different scenarios. In the first scenario, the median costs for the complete package across all 155 countries is 4.6 per cent of GDP. The boxplots in Figure 17 show how these gaps are distributed. Median gaps amount to 1.9 and 3.1 per cent of GDP in high- and upper-middle-income countries, respectively. For lower-middle-income countries, the median gap is 10.1 per cent. For low-income countries, the amount of resources that they would have to invest or reallocate to close current protection gaps differs widely. The middle 50 per cent of countries have gaps between 27.7 and 63.7 per cent. An extreme outlier is the Central African Republic, which would need to invest an amount equal to 140.5 per cent of its GDP in 2015 to close protection gaps.

The median size of protection gaps differs across the four scenarios. For the targeted scenario that uses a relative poverty line (and an income floor set at $1.90 per day in 2011 PPP where applicable), the median protection gap across all countries is 4.9 per cent. Median gaps are higher in the scenarios that model a categorical approach and amount to 8.8 per cent and 10.1 per cent, respectively, depending on which poverty line is chosen. In all scenarios, however, the comparatively very large gaps in low-income countries, as well as the considerable differences within this group of countries, become apparent.

FIGURE 17

Median protection gaps, targeted approach, $3.20 per day in 2011 PPP, by region and income category, 2015
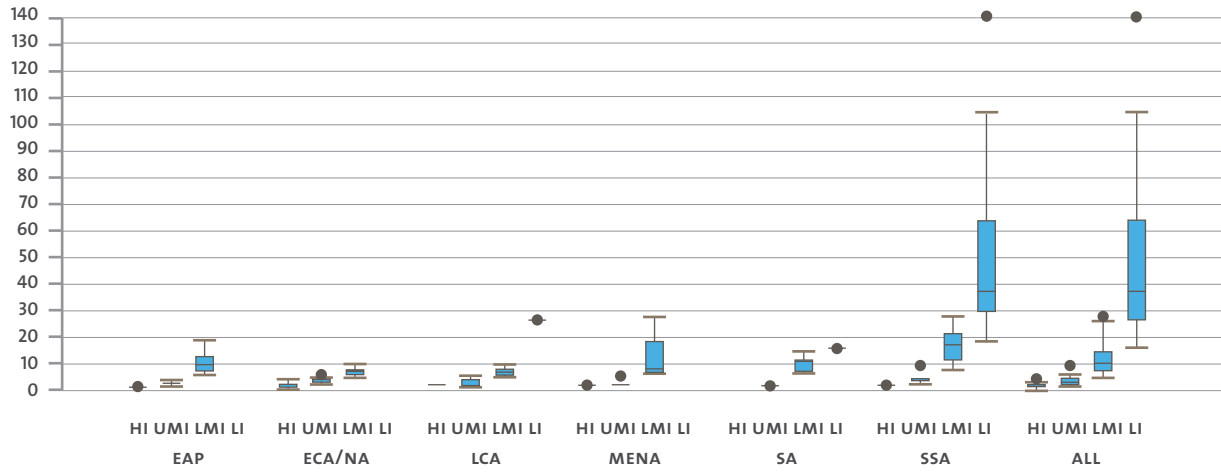

FIGURE 18

Median protection gaps, targeted approach, 50 per cent of median income (with income floor), by region and income category, as a percentage of GDP, 2015
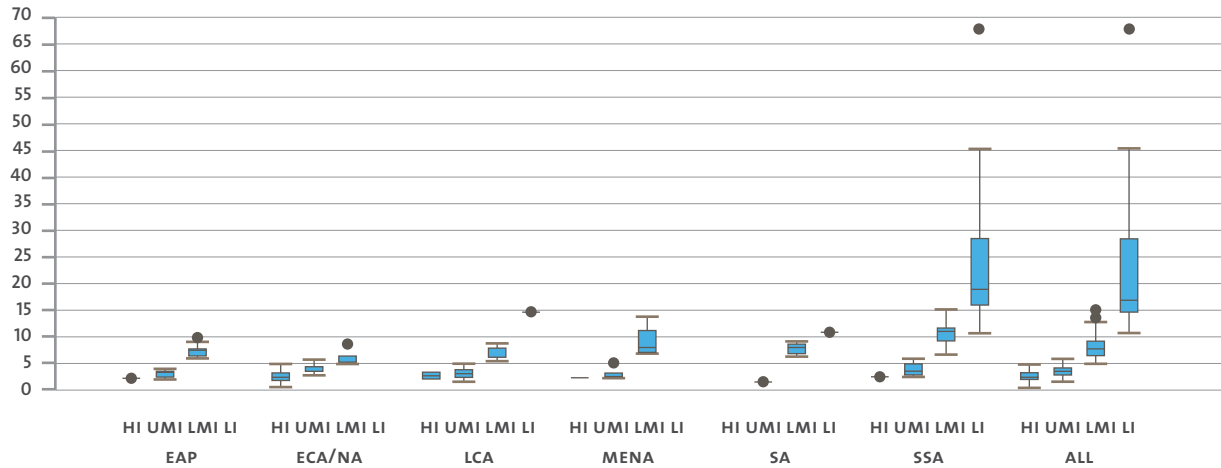
FIGURE 19

Median protection gaps, categorical approach, $3.20 per day in 2011 PPP (with income floor), by region and income category, as a percentage of GDP, 2015
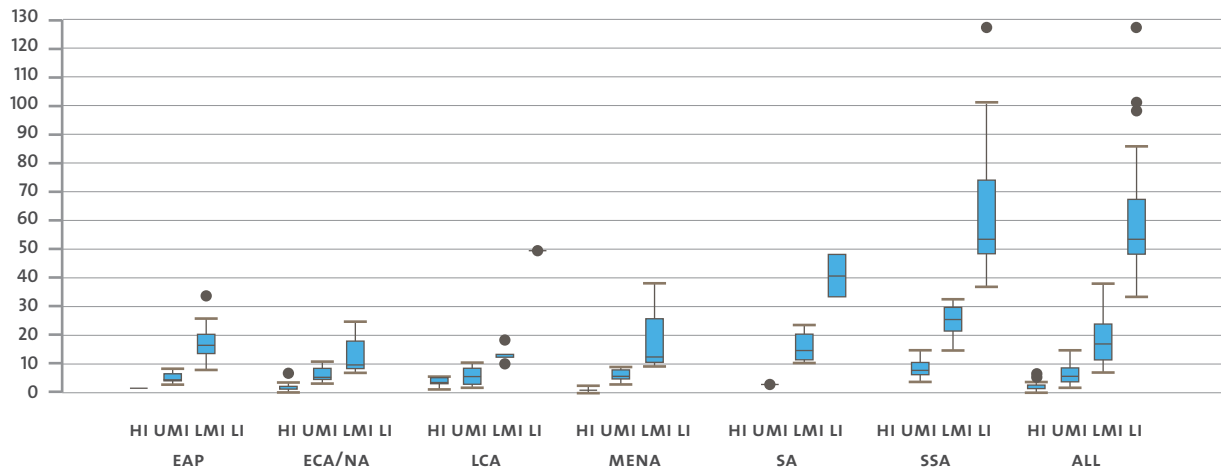

FIGURE 20

Median protection gaps, categorical approach, 50 per cent of median income (with income floor), by region and income category, as a percentage of GDP, 2015
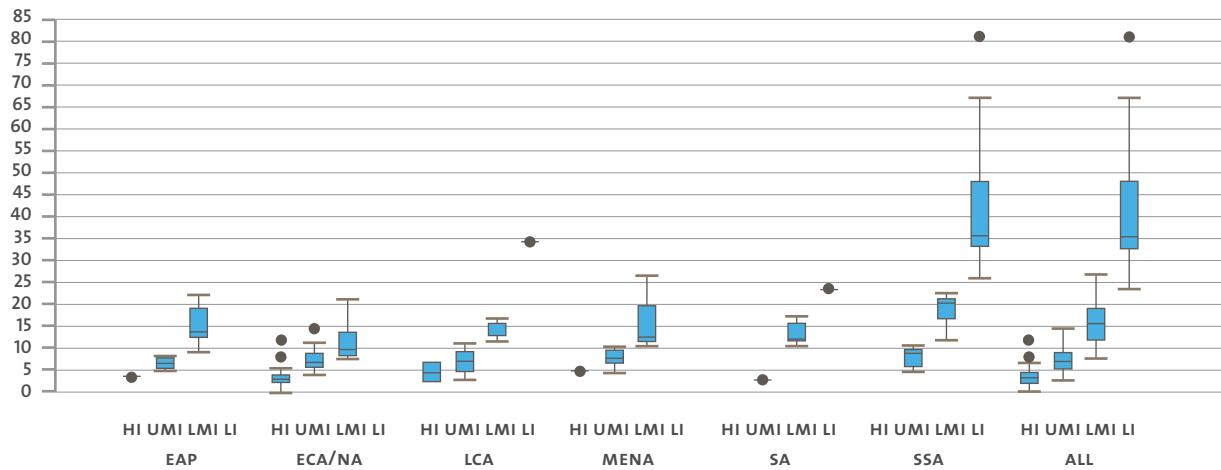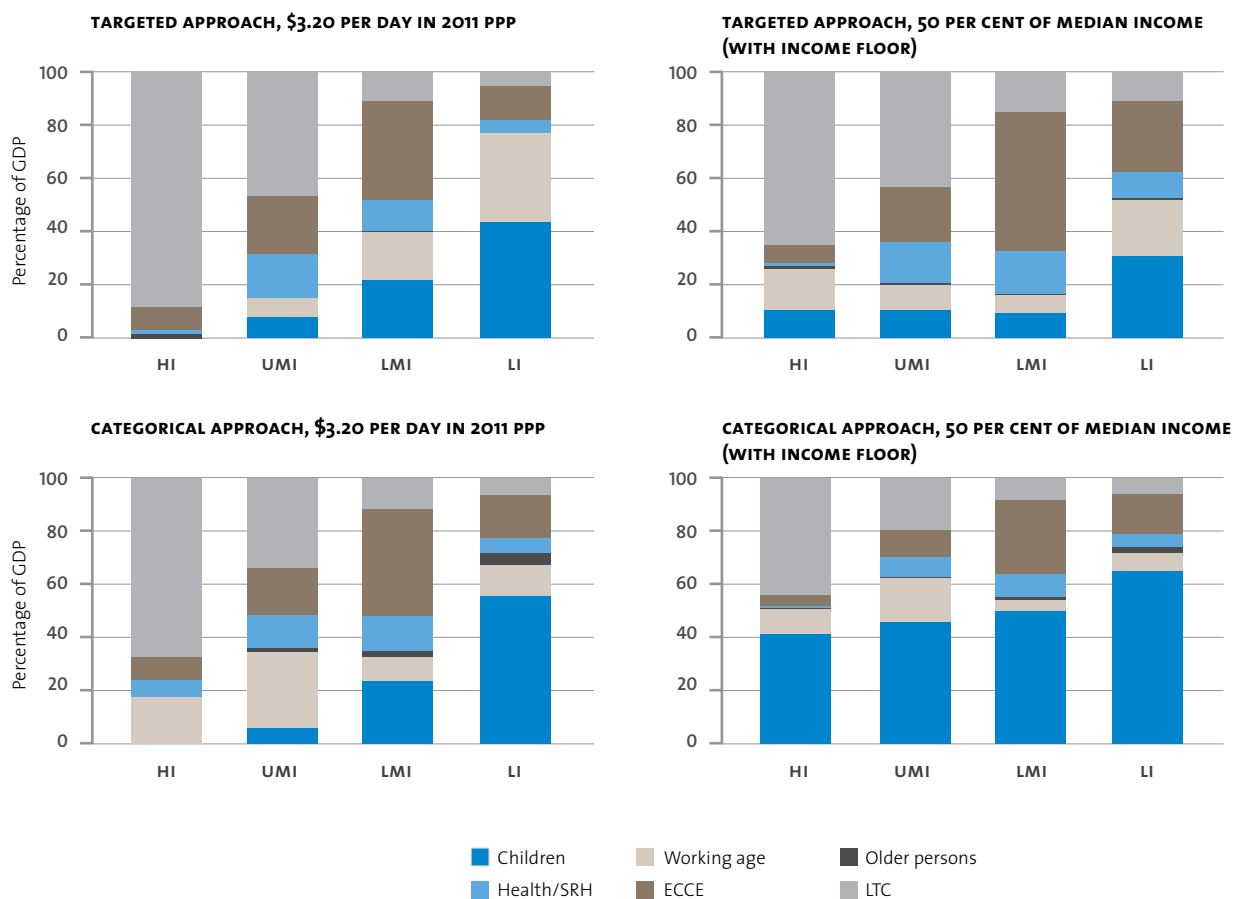
Figure 21 looks at the composition of the total gaps for the four different scenarios, as well as for the different income categories. The bars do not indicate the absolute size of the gaps but show in relative terms how much the individual components contribute to the overall protection gaps. This differs across scenarios, but some general observations can be made. First, in high- and upper-middle-income countries, costs for LTC services and ECCE are usually the largest drivers of protection gaps. Second, for low-income countries, income protection for children and people of working age constitutes the largest challenge in relative terms. Finally, for lower-middle-income countries, it depends on the scenario whether transfers to children and people of working age or care services contribute the largest amount to the total gaps.

Relative size of components, by scenario and income category, as a percentage of GDP, 2015

TARGETED APPROACH, $3.20 PER DAY IN 2011 PPP

TARGETED APPROACH, 50 PER CENT OF MEDIAN INCOME (WITH INCOME FLOOR)

CATEGORICAL APPROACH, $3.20 PER DAY IN 2011 PPP

CATEGORICAL APPROACH, 50 PER CENT OF MEDIAN INCOME (WITH INCOME FLOOR)

Children Working age Older persons
Health/SRH ECCE LTC

Finally, Figure 22 provides an overview of the number of countries by the size of their protection gaps. For the second scenario, the targeted approach using a relative line, one quarter of the countries in our sample would have to invest or reallocate less than 3 per cent of their GDP in order to close current gaps in their package of family-friendly transfers and services. More than three quarters of the countries have protection gaps that are smaller than 10 per cent of their GDP. At the same time, one out of eight countries has gaps that are larger than 15 per cent.

FIGURE 22
Number of countries by size of protection gaps, by scenario

TARGETED APPROACH, $3.20 PER DAY IN 2011 PPP

TARGETED APPROACH, 50 PER CENT OF MEDIAN INCOME (WITH INCOME FLOOR)

CATEGORICAL APPROACH, $3.20 PER DAY IN 2011 PPP

CATEGORICAL APPROACH, 50 PER CENT OF MEDIAN INCOME (WITH INCOME FLOOR)

7.
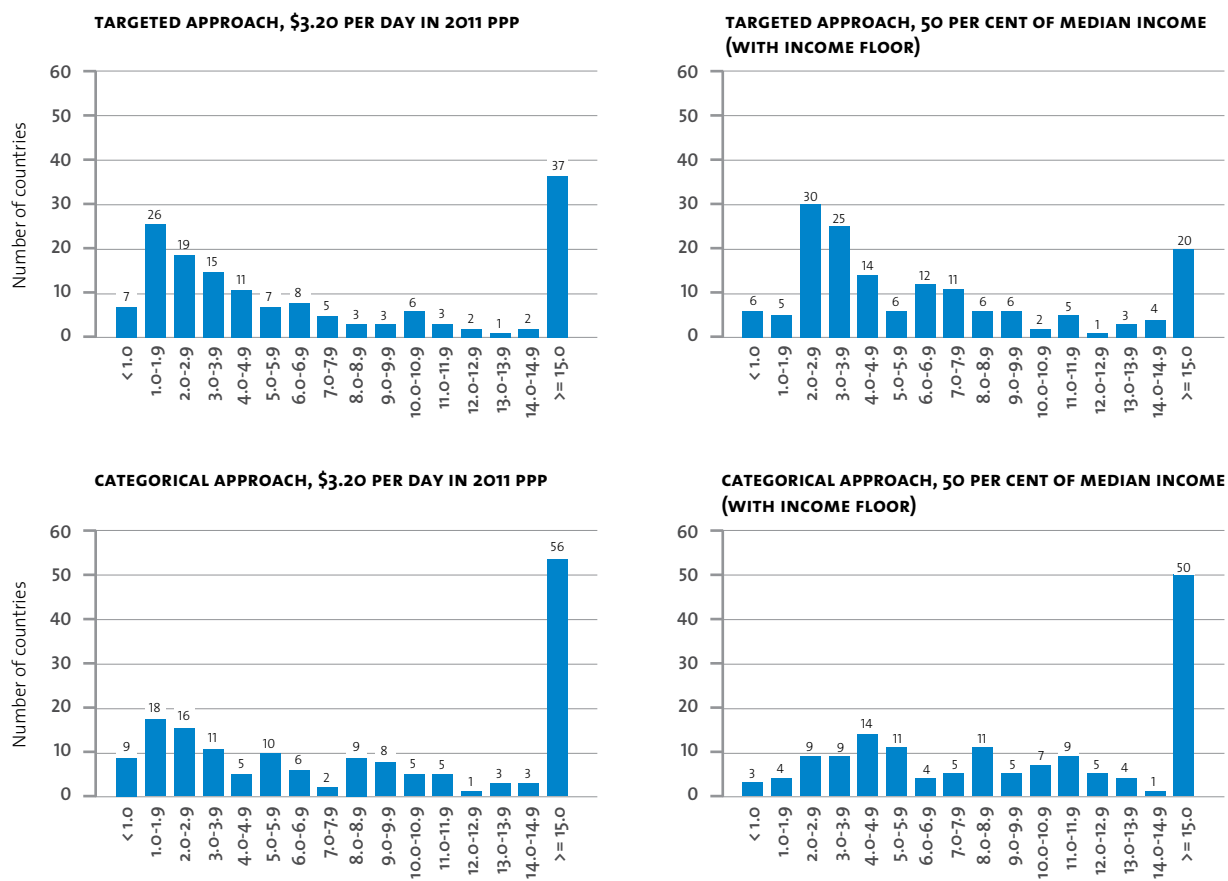
SOCIAL PROTECTION, ECONOMIC GROWTH AND RETURNS TO INVESTMENTS

The results of the costing give a rough indication of the order of magnitude of resources that would need to be invested or re-allocated to family-friendly transfers and services to close existing protection gaps. A recent publication of the ILO discusses extensively the range of options that countries have to expand fiscal space for social investments (Ortiz, Cummins and Karunanethy 2017).

In addition to guaranteeing human rights and contributing to social justice, it is frequently argued that social protection contributes to economic growth through transmission channels at the household, community and national levels. Social transfers are intended to lift credit and liquidity constraints, increase consumption and asset security or alter household resource allocation (Barrientos 2012). In addition to direct effects on disposable household income, there are also behavioural effects that can foster human and physical capital and hence labour productivity and economic performance. Figure 23 illustrates the direct and indirect links between various social protection instruments, household consumption and direct effects on poverty and inequality, as well as indirect effects on labour productivity via human and physical capital improvements.

Based on this conceptual framework, a team of researchers has completed a number of initial studies to estimate ex-ante the returns to social protection in a diverse set of countries that includes Cambodia, Kenya, Lesotho and Uganda (Dietrich et al. 2016; Dietrich, Malerba, Barrientos and Gassmann 2017;

Dietrich, Malerba, Barrientos, Gassmann et al., 2017; Mideros et al. 2012). Overall, the results of the studies show that the long-term benefits of investing in social protection for poor or vulnerable households exceeds the costs of these investments. However, these positive effects do not materialize in the short term but need a longer time frame. In the case of Cambodia, for instance, a dynamic micro-simulation of four social protection instruments suggested that rates of return become positive after 12 years and could generate an economic return of around 5 per cent after 15 years.

Most importantly, countries need to create fiscal space for financing a package of family-friendly transfers and services. Nonetheless, we engage in a simple thought experiment and ask the question of returns to social investments differently: Based on the net cost calculation and the countries' present government revenues (retrieved from the World Economic Outlook Database, IMF 2018), by how much would GDP have to increase in a stationary state in order to render the investments self-financing through additional employment and increased labour productivity?

FIGURE 23
Social protection and economic growth
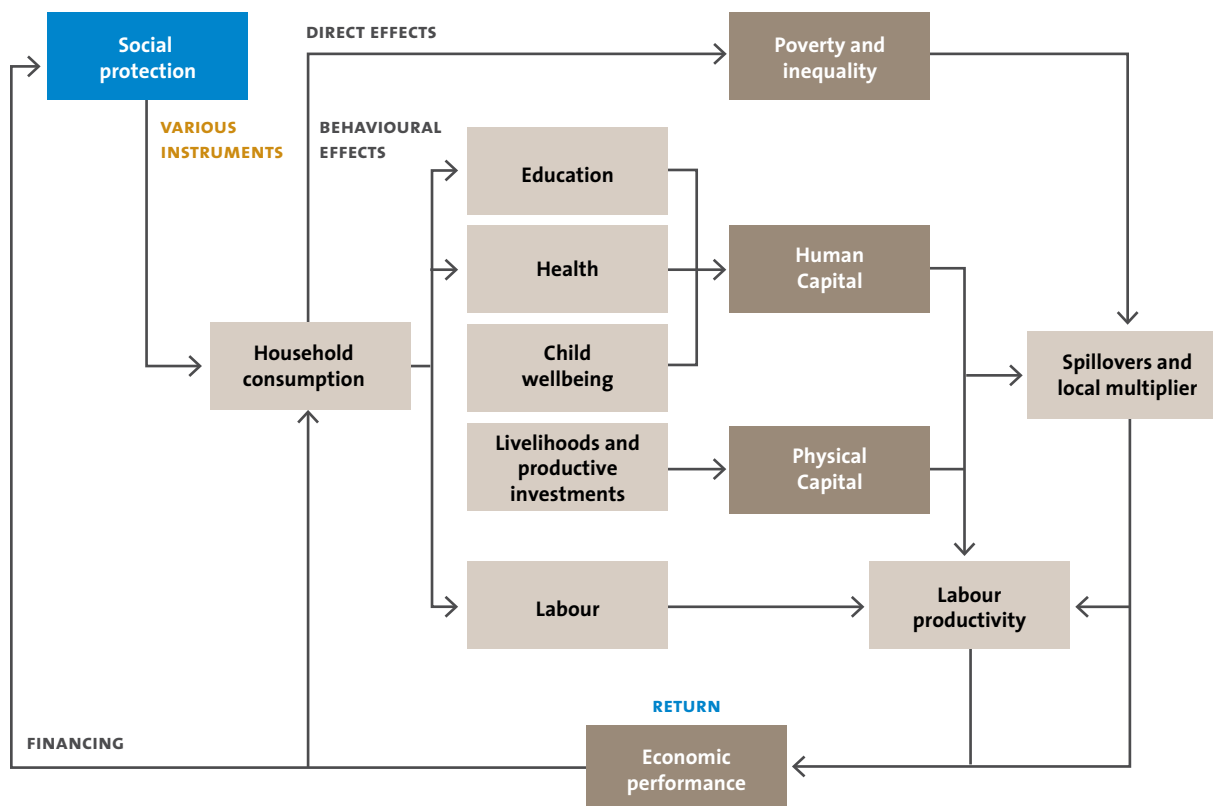
Source: Mideros et al. 2012, p. 29.

As an example, to close current protection gaps Gabon would have to invest 4.9 per cent of GDP in the scenario that considers targeted benefits and a relative poverty line. This represents the median protection gap in this scenario. Gabon's government revenues were 21.1 per cent of GDP in 2015. At constant GDP, these would have to increase to 26.0 per cent to avoid a new deficit. To keep the revenue to GDP ratio at 21.1 per cent of GDP, GDP would have to grow by $(\frac{26.0}{21.1}-1)*100$ per cent, that is, 23.1 per cent. This simplified model calculation assumes, of course, that the poverty line and other absolute values that enter the gap calculations are not adjusted with GDP but stay constant in absolute terms.

At the rate of return of approximately 5.0 per cent that was calculated for Cambodia after 15 years of the initial investment in social protection, it would take about 35 years in Gabon for investments in social protection to become self-financing. Another way to look at this is that social protection investments would have to lead over time to a combined growth of productivity per worker and employment of 23 per cent compared to the status quo for the social protection investments to be self-financing. If we assume that good health, adequate ECCE and sufficient income for healthy nutrition will in the long run lead to lower informality, and knowing that informality can explain up to one third of per capita output differences between economies with high informality and those with low informality (Prado 2011), then an upward shift of 23 per cent does not seem unreasonable.

Across all countries, the median value of necessary economic growth is roughly 18 per cent in the targeted scenarios and 32 to 38 per cent in the categorical scenarios. Results by country are listed in the appendix.

8.

CONCLUSION

In this paper we presented a costing exercise for a set of family-friendly services and transfers: income protection for children, people of working age and older persons; universal health coverage; and ECCE and LTC services. Previous work studied different components of this package more in-depth, often also providing projections for the future. The comparative advantage of the present study is that it looks at an integrated package of family-friendly services and transfers and estimates the costs for a large sample of countries.

The costing is based on the basic idea of identifying gaps in a country's current level of protection. This means the focal question is not so much what countries have already achieved (though this is, of course, indirectly taken into account) but to what extent gaps in protection remain and how much resources countries would have to invest or reallocate to close those gaps. Assumptions for the costing were formulated as far as possible based on the SDGs, the Social Protection Floors Recommendation (No. 202) (International Labour Conference 2012) and internationally recognized standards.

A package of family-friendly transfers and services, like all forms of social protection, reduces human misery and suffering. This is its raison d'être. Overall, this costing takes the view that gaps in access to services and goods have to be closed by public funds, as private insurance or out-of-pocket payments cannot be relied on to close coverage gaps for poor and vulnerable persons. The costing shows that such a package is affordable in many countries. Those countries that cannot finance the full package can initially afford at least some of its critical elements, such as health care or income support. Most importantly, countries have to explore options to increase fiscal space for social protecWtion. After a transition period and in the longer run, countries can also expect that investments in social protection will yield returns in economic terms.

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