

Quantifying Heckman: Are Governments in Eastern and Southern Africa Maximizing Returns on Investments in Early Childhood Development?

February 2021

UNICEF Eastern and Southern Africa Regional Office Social Policy and Early Childhood Development Working Paper

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February 2021

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UNICEF EASTERN AND SOUTHERN
AFRICA REGIONAL OFFICE SOCIAL
POLICY AND EARLY CHILDHOOD
DEVELOPMENT WORKING PAPER

FEBRUARY 2021

Quantifying Heckman: Are Governments in Eastern and Southern Africa Maximizing Returns on Investments in Early Childhood Development?

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Keywords: Early childhood development, Heckman Curve, public finance, government spending, human capital, external financing

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Acknowledgements

This paper was written by Debora Camaione (Social Policy Consultant) and Bob Libert Muchabaiwa (Public Finance Specialist) under the guidance of Matthew Cummins (Social Policy Regional Adviser) and Maniza Ntekim (Early Childhood Development Regional Adviser) of UNICEF's Eastern and Southern Africa Regional Office (ESARO). The authors are grateful to Mackenzie Rice (Public Finance Intern, ESARO) for research support.

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List of Acronyms

AU	Africa Union
CO	(UNICEF) country office
COVID-19	coronavirus disease 2019
CRC	Convention on the Rights of the Child
DWG	Development Working Group
ECD	early childhood development
ESA	Eastern and Southern Africa
EU	European Union
GDP	gross domestic product
GHE	global health expenditure
GNI	gross national income
IBP	International Budget Partnership
IDA	International Development Association
IMF	International Monetary Fund
LIC	low-income country
LMIC	lower middle-income country
MDAs	ministries, departments and agencies
ODA	official development assistance
OECD	Organisation for Economic Cooperation and Development
PEFA	Public Expenditure and Financial Assessment
PER	Public Expenditure Review
SDG	Sustainable Development Goal
SSA	Sub-Saharan Africa
UMIC	upper middle-income country
WASH	water, sanitation and hygiene
WB	World Bank
WEO	World Economic Outlook
WHO	World Health Organization

Executive Summary

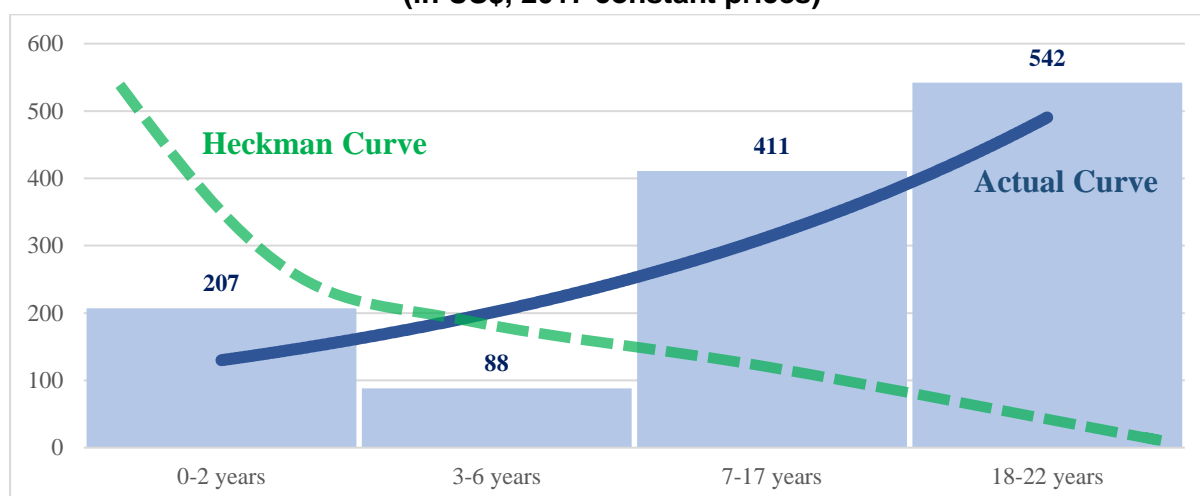
This working paper analyzes how much governments and development partners in Eastern and Southern Africa (ESA) are spending on early childhood development (ECD) services. The analysis draws inspiration from the seminal work of Heckman (2008), which demonstrates that investments in the early years of life, especially in the first 1,000 days, achieve significantly higher returns than investments made later on. Specifically, the paper assesses the extent to which public investments in health and education (core human capital sectors) that are focused on children between the ages of 0-6 (as a proxy for ECD) mirror Heckman's findings.

The paper also estimates the ECD funding gap for countries in the region based on a scenario where governments fulfill their commitments to international spending benchmarks for health and education. Additionally, it offers a brief outlook for ECD spending taking into consideration the regional impacts of COVID-19. Ultimately, it is hoped that the analytical approach and findings will stimulate discussion among governments, development partners and UNICEF country offices (COs) on the imperative to increase and improve public investments in ECD.

Key findings

- **Investments in ECD starkly contradict the Heckman curve, with young children benefitting from significantly less spending than older children.** When looking at health and education, in 2019 governments and development partners in ESA spent an estimated US\$542 (in 2017 constant prices) per person between the ages of 18 and 22, US\$411 on those aged 7-17, US\$207 on children aged 0-2 and only US\$88 for children between 3-6 years, on average (Figure 1). These trends indicate that most governments will not reap the social and economic benefits of investing in the early years, which will cause them to fall short on a wide range of both short and long-term development goals.

Error! Reference source not found.: Average per capita government and donor spending on core human capital sectors by age group in ESA compared with the Heckman Curve, 2019
(in US\$, 2017 constant prices)



Source: Author's calculations, based on data from WHO, UNESCO, UNDESA, OECD Statistics and the IMF (2020)
Note: The Heckman curve is for illustrative purposes; it is not drawn to scale.

- **Health expenditures account for the bulk of ECD spending in ESA.** In 2019, governments and development partners spent an estimated US\$23 on early childhood education for children (3-6 years), on average, compared to US\$71 for the same age group on health services. Given the difficulties in quantifying how much health expenditure goes directly to ECD-specific interventions, like stimulation and nurturing care, it is important to recognize that this is likely a significant over-estimate.
- **Prior to the pandemic, ECD funding gaps were astronomical.** The total funding gap for ECD-focused health and education services exceeded 90 percent, on average, and this is despite an upward trajectory in investments since 2002.
- **One of the major funding challenges is the low priority afforded to ECD services within essential sectors.** For instance, in 2019 only around two percent of education budgets in ESA were focused on early childhood education, which falls far below the international benchmark for governments to allocate at least 10 percent of their education budgets to early childhood education. COVID-19 has since magnified ECD funding shortfalls. Preliminary estimates suggest that government spending on health and education for children between 0-6 years will fall from US\$138 per person in 2019, on average, to US\$122 in 2020 before a modest uptick to US\$126 in 2021.
- **Data inadequacies continue to hamper more effective planning and budgeting for ECD, as well as analytical understanding of spending challenges and solutions.** Look no further than the efforts to produce this analysis, which required the widespread use of gap-filling and estimation methods to overcome the dearth of budgetary data produced by governments. Beyond pre-primary education, spending on most ECD programs is rarely measured or tracked, which is why ECD-focused financial diagnostics, such as Public Expenditure Reviews (PERs) or Public Expenditure Tracking Surveys (PETS), are few and far between.

Recommendations to governments

- Reorient fiscal policy and budgeting practices to be age-sensitive in order to maximize investments in the early years of life and better achieve national development priorities.
- Progressively increase the size of ECD spending to meet international targets, starting by allocating 10 percent of education sector resources to pre-primary education.
- Pay attention to investments in early learning, safety, security and care needs of children between 3-6 years, who are the most neglected.
- Proactively open discussions with donors and international financial institutions so they prioritize ECD in their financing packages to individual governments, noting that official development assistance (ODA) flows to ECD services are much lower than flows to services that focus on other age groups.
- Make ECD a key component of COVID-19 emergency and recovery plans, ensuring it is mainstreamed in critical areas such as child protection, education, health, nutrition and social protection. Spending on ECD services should also be safeguarded under all circumstances and not be scaled back during fiscal consolidation.
- Reform budget templates, budget classification systems and charts of accounts to enhance the identifiability of ECD in budget processes and make information on ECD resource flows and expenditures publicly available.

Recommendations to UNICEF and development partners

- Assist governments to mobilize more ODA to various components of the nurturing care framework to ensure the holistic development of children early on in life in all contexts, including during emergencies.
- Provide technical assistance to finance and social sector ministries to strengthen budget templates, budget classification systems and financial reporting systems to improve the visibility of ECD expenditures in budget documents and global public finance statistics.
- Support targeted financial diagnostics with government counterparts to identify and address inadequacies, inefficiencies and ineffectiveness in budgeting and spending processes that impact ECD services.

Chapter 1. Introduction

The early years of life are critical for the emotional, cognitive and physical development of a child. This is the period when the brain develops most rapidly, and the foundation is laid for future development, wellbeing, productivity and innovation. Investing in early years is, therefore, smart economics and a key strategy for human capital development (Heckman, 2017; Britto *et al.*, 2017; UNICEF, 2019; WHO, 2020). But are governments and development partners in Eastern and Southern Africa (ESA) investing sufficiently in the early years?

This working paper estimates public spending by ESA governments and their development partners on early childhood development (ECD) services. Early childhood covers the period from conception to age 8, which is characterized by three distinct phases: (i) the rapid brain development and growth phase from inception up to age 3; (ii) the pre-school phase typically covering the 3-5 period; and (iii) the early primary school phase usually from 6-8 years old (UNICEF, 2019). This paper focuses on the first two phases, given how critical these ages are for human development. Specifically, it estimates spending on ECD per child between the ages of 0-6 and then compares this with spending on older age groups, including children 7-17 and 18-22 years old. Due to expenditure data challenges, health and education spending focused on children 0-6 years old is used as a proxy for ECD spending. Unless otherwise stated, all estimates of expenditures are in constant 2017 US dollars.

The analysis draws inspiration from the seminal works of Heckman (2008, 2017). Dr. James Heckman, Professor of Economics at the University of Chicago and a Nobel Memorial Prize winner in economics, demonstrated that investments in the early years, especially in the first 1,000 days of life, achieve significantly higher health, economic and social outcomes for individuals and society at large than investments that take place later on life. This paper applies this groundbreaking finding to countries in ESA by assessing the extent to which government and donor investments in ECD mirror the evidence. The paper also estimates the ECD funding gap for countries in the region based on a scenario where governments fulfill their commitments to international spending benchmarks on health and education. The paper additionally offers a brief outlook for ECD spending in 2021 taking into consideration the regional impacts of COVID-19. Ultimately, it is hoped that the analytical approach and findings will stimulate discussion among governments, development partners and UNICEF country offices on the imperative to increase and improve public investments in ECD.

1.1 The what and why of ECD

ECD is defined as the process by which a young child acquires essential physical, motor, cognitive, social, emotional and language skills (UNICEF, 2017; WHO, 2020). Included in the definition are a wide range of policies, programmes and services to support the holistic development of children from birth to 8 years of age – with a particularly strong focus on the first 1,000 days from conception (Heckman, 2008; Lo, Das and Horton, 2017; UNICEF, 2019; WHO, 2020). Within government, ECD services are delivered by multiple ministries, departments and agencies (MDAs) across several sectors, most commonly health, education, nutrition, child protection and social welfare.

ECD is firmly included in the 2030 Agenda on Sustainable Development. Through the Sustainable Development Goal (SDG) No. 4 on quality education, world leaders committed themselves to “ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education” (SDG Target 4.2). ECD is foundational for the achievement of several other SDGs, including

SDG 2.2 (end malnutrition), SDG 3.2 (end preventable deaths of under-5) and SDG 16.2 (end violence against children) (UNICEF 2019). Moreover, the Convention on the Rights of the Child (CRC), which was adopted in 1989, requires state parties to provide universal access to essential services for early health and well-being, with particular focus on protecting the rights of vulnerable and marginalized children (UN, 1989). In 2006, the Committee on the Rights of the Child further issued General Comment 7 to Article IV of the CRC on measures that governments should undertake to ensure ECD (United Nations, 2006).

Box 1: What is Early Childhood Development (ECD)

ECD is the process by which a young child acquires **essential physical, motor, cognitive, social, emotional and language skills**. These skills allow children to think, solve problems, communicate, express emotions and form relationships. They **build the foundation for later life** and set the trajectory for health, learning and well-being.

ECD is often understood in phases determined by age. According to the definition used by UNICEF (2019), which follows WHO's recommendations, early childhood covers the period from conception to age 8 and has three distinct phases:

- i) The **first thousand days** and up to age 3, which is a period of rapid brain development and growth. Brain development is greatly influenced by several factors, notably nutrition, protection and responsive stimulation.
- ii) The **pre-school phase** from about age 3 to the age when a child begins school (usually age 6-7).
- iii) The **early years of primary school** typically aged 6-8. Nutrition and protection remain important during this phase, while early learning opportunities at home and in high-quality preschool and primary school settings are also essential.

What are the key interventions to support ECD?

Young children need nurturing care to develop their full potential. Nurturing care has five components, each enabled by specific laws, policies, services and interventions. These are:

- **Good health:** Universal health coverage is the most relevant associated policy, while services and interventions include family planning, immunization, HIV prevention, antenatal, neonatal and postnatal care and care for children with disabilities.
- **Adequate nutrition:** Policies include regulation of marketing of breast-milk substitutes, while services and interventions seek to support maternal and neonatal nutrition, promotion of breastfeeding, and growth monitoring.
- **Responsive caregiving:** Key policies are paid parental leave, affordable child-care services and child-friendly urban design. Services and interventions encompass rooming-in for mothers and young infants, responsive feeding, encouraging play and communication activities of caregivers with the child, mental health support for caregivers, involvement of fathers, extended families, community groups and faith communities in caregiving.
- **Opportunities for early learning:** Universal access to good-quality day care for children, pre-primary and primary education are key policies in this realm. Related services are information, support and counseling to caregivers on early learning, playing and reading groups, mobile toy and book libraries.
- **Security and safety:** Key policy areas are social protection and social services, as well as a minimum wage. Relevant services and interventions comprise birth registration, cash or in-kind transfers, social insurance, social care services, support to family care, prevention of violence within families, as well as environmental and WASH interventions.

Source: WHO, UNICEF, World Bank Group (2018)

ECD improves learning outcomes later in life. Children who attend early childhood education programs are twice as likely to show progress in early literacy and numeracy, compared to only 20 percent among children not attending any pre-primary education program (Black *et al.*, 2017). Moreover, children who access quality early childhood education are more likely to start primary school at the right age, progress through the system, learn, and develop competencies needed for life. This means lower dropout and repetition rates, and higher completion rates (UNICEF, 2019). Attending an early childhood education program is, therefore, one of the strongest predictors for a child's readiness for school (Britto *et al.*, 2017). It is also a pillar on which future learning and training are grounded (Pence and Nsamenang, 2008; Heckman, 2017).

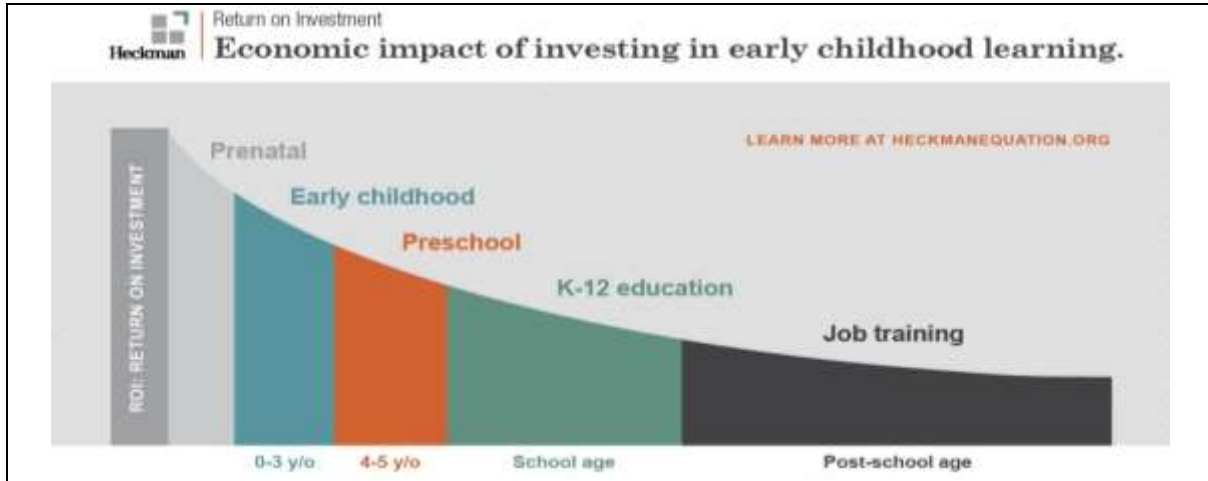
ECD is core to individual, societal and national development. Evidence in neuroscience on brain development shows that the period before birth and the first years of life offer an unparalleled opportunity for healthy brain development, with effects throughout the whole life cycle of the individual (WHO, 2020; Walker *et al.*, 2016). A strong ECD foundation is associated with skilled human capital and with economic growth (Riley, 2012; Lucas, 1988; Mankiw *et al.*, 1992). Quality ECD is also key for breaking the cycle of intergenerational poverty and inequality (Sayre *et al.*, 2015).

Investing in early years generates exceptionally high economic and social returns. The World Bank (2018) estimates that better nourished children earn between 5 and 50 percent higher incomes when they become adults than their malnourished counterparts. Heckman (2008, 2017) estimates an annual rate of return on investment in ECD of between 10 and 13.7 percent for every dollar invested. In US dollars, the rate of return ranges from \$1.80 to \$17.7 (Cunha *et al.*, 2006).

1.2 Conceptual framework and methodology

As indicated earlier, the conceptual framework for this analysis is inspired by Heckman (2008, 2017). Through an extensive review of experimental and non-experimental early childhood interventions in the United States, and by measuring returns on public investment during adulthood, Heckman (2008, 2017) found substantial economic and social gains derived from investments in early years of life. Cunha *et al.*, (2006) observed that rates of return diminish with age. This means that investments later in life such as adult literacy programs, job training programs, prisoner rehabilitation, and subsidies for higher education yield significantly less returns than interventions earlier in life (Heckman, Carneiro and Heckman, 2003; Cunha *et al.*, 2006). Based on these findings, Heckman (2008) derived the "Heckman Curve" to illustrate the rates of return to public investments made at various stages throughout an individual's life (Figure 2). The highest rates of economic return (ranging between 10 and 13.7 percent) can be harvested from investments in early years (Heckman, 2017).

Figure 1: The Heckman curve



Source: Heckmanequation.org

This paper draws on Heckman’s ideas by trying to assess the extent to which governments and donors in ESA are maximizing investments in early years. Specifically, the paper estimates per capita spending on the following age groups: 0-2, 3-6, 7-17, and 18-22 years. The age groups cover children from birth to roughly the end of university. While the 0-2 group includes the crucial “first 1,000 days,” the other groups were defined to roughly follow the age groups corresponding to the different education levels: pre-primary, primary, secondary, and tertiary.

Lack of comprehensive expenditure data, except for health and education, made it difficult to include other elements of the nurturing care framework in this analysis. Apart from health and education, there is virtually no data available of government spending on responsible caregiving, early stimulation, safety and security of children. However, most of the publicly fundable interventions fall within the two sectors above, which constitute the bulk of ECD funding in most countries.

The data used in this analysis are drawn from global databases. Data on education and health government spending were obtained from the UNESCO Institute for Statistics (UIS) and the WHO Global Health Expenditure (GHE) database, respectively. Data on real gross domestic product (GDP) was collected from the International Monetary Fund’s (IMF) World Economic Outlook (2020 April and June updates), while data on Official Development Assistance (ODA) is from OECD Statistics and population data from UNDESA’s World Population Prospects.

For both health and education, estimates on government expenditures were obtained by applying the respective share of GDP spent on each area to total GDP (in constant 2017 US dollars). The available expenditure data (as a percentage of GDP) was for the most part incomplete. Data gaps were filled using various methods including interpolation, nearest neighbor imputation and country averages. Data deficiencies were acute in some countries including Angola, Botswana, Burundi, Eritrea and Zimbabwe. Availability of data also varied considerably across variables.¹ For most countries, expenditure data was only available up to 2016 and in some cases to 2017. Estimates for 2018 and 2019 were then calculated using simple linear estimation from available data between 2002 and 2017/18. Given the foregoing, the figures presented in this paper should be taken as estimates, and not as actual

¹ Data was particularly deficient for: post-secondary education for Angola, Burundi, Mozambique and Zambia; pre-primary education for Botswana, Eritrea, Mozambique, Uganda and Zambia; nutrition and reproductive health for Botswana, Comoros, Eritrea, Eswatini, Lesotho, Madagascar, Mozambique, Rwanda, South Africa and Zimbabwe.

expenditures on ECD. Due to gap-filling, it is possible that variations exist between on-the-ground reality and the estimates presented in this paper. For the figures that present ESA averages, it is important to recognize that these trends tend to mask national realities.

Spending on ECD was estimated considering pre-primary education and selected health expenditures. For children between 0-6 years, spending on immunization, nutrition, management of childhood illnesses and reproductive health were considered as spending on health (Table 1). For the rest of the age groups, per person spending was arrived at by dividing total health spending by the total population. This assumes that health expenditure is benefitted equally across the population, with the exceptions of immunization, nutrition, and reproductive health targeted at young children. To distribute education expenditure, each group was associated with the expenditure in the corresponding level of education, i.e. the 3-6-year-olds with pre-primary education, the 7-17-year-olds with primary and secondary combined, and the 18-22-year-olds with tertiary education and vocational training. Expenditures are presented in total and per capita terms.

Table 1: Types of expenditure included as spending on ECD by age groups²

Sector	Age group	Source of Investment	Types of expenditure associated with age group	Data source
Health	0-2	Donors	Aid (ODA) for health including basic nutrition and reproductive health care ³	OECD Statistics
		Government	Domestic general government health expenditure (GGHE-D) including the share on immunization, nutritional deficiencies, and reproductive health	WHO Global Health Expenditure Database
Education		None		
Health	3-6	Donors	Aid (ODA) for health excluding nutrition and reproductive health	OECD Statistics
		Government	Domestic general government health expenditure (GGHE-D) excluding the share on immunization, nutritional deficiencies, and reproductive health	WHO Global Health Expenditure Database
Education		Donors	Aid (ODA) for early childhood education	OECD Statistics
		Government	Government expenditure on pre-primary education	UNESCO Institute for Statistics (UIS)
Health	7-17	Donors	Aid (ODA) for health excluding nutrition and reproductive health	OECD Statistics
		Government	Domestic general government health expenditure (GGHE-D) excluding the share on immunization, nutrition, and reproductive health	WHO Global Health Expenditure Database
Education		Donors	Aid (ODA) for primary education and secondary education	OECD Statistics
		Government	Government expenditure on primary education and Government expenditure on secondary education	UNESCO Institute for Statistics (UIS)
Health	18-22	Donors	Aid (ODA) for health excluding nutrition and reproductive health	OECD Statistics
		Government	Domestic general government health expenditure (GGHE-D) excluding the share on immunization, nutrition, and reproductive health	WHO Global Health Expenditure Database
Education		Donors	Aid (ODA) for post-secondary education	OECD Statistics
		Government	Government expenditure on post-secondary education and government expenditure on tertiary education	UNESCO Institute for Statistics (UIS)

² The definitions provided in the table for the various types of expenditures are the same as those used in the relevant databases, indicated in the Data source column.

³ In the OECD Statistics database on ODA, immunization expenditure is not distinguished from overall current health expenditure, hence only nutrition and reproductive health are considered as exclusively benefiting children under 2. Domestic expenditure instead includes immunization as well.

1.3 Limitations

To begin with, by focusing on health and education, the paper does not capture the entire universe of ECD interventions. For instance, childcare interventions, normally coordinated by social welfare ministries, parenting, and birth registration have been left out. This is mainly because of unavailability of data. Despite this limitation and as indicated earlier, interventions in the health and education sectors do account for the lion's share of ECD expenditures.

Second, expenditures in the 0-2 group are likely overestimated because immunization, nutrition and reproductive health services often go beyond the initial two years of life. ECD-specific interventions (like support for stimulation and nurturing care) are only a share of the whole health expenditure for children. The other challenge is that consumption of health services is not uniform across age groups.

Third, it was difficult to organize data according to the age groups proposed by Heckman (2008). As a result, for the purposes of this paper public spending on ECD is defined as investments in children under the age of seven (0-6 years). In most ESA countries, this is roughly the age of entry into primary school. However, the normal cut-off point for investments in ECD is eight years (UNICEF, 2017).

Fourth, the paper does not delve into issues of equity, efficiency and effectiveness of spending. Specifically, the paper focuses on assessing the extent to which public investments in health and education for children between the ages of 0-6 – as a proxy for ECD – mirror Heckman's findings. Data inadequacies make it difficult to undertake financial diagnostics such as equity analysis, public expenditure reviews, and public expenditure tracking surveys.

Lastly, due to the unavailability of expenditure information at country level, it was difficult to cross check ECD interventions with information from global expenditure databases. In very few cases where national data do exist, it was not sufficiently disaggregated to enable the identification of ECD budget lines across sectors. Thus, as highlighted earlier, the figures presented in this paper are only estimates.

1.4 Structure

The rest of the paper is structured as follows. Chapter 2 looks at the state of ECD in ESA, presenting key information, policies and legal frameworks. It also outlines the main opportunities and challenges for improving investments in ECD. Chapter 3 presents the estimated investments in ECD by governments in ESA and assesses the extent to which these align with the Heckman Curve. Chapter 4 estimates the funding gap to increase coverage and quality of ECD services to all children and briefly sheds light on the spending outlook. In Chapter 5 the paper summarizes the main findings and recommendations.

Chapter 2. ECD in ESA: Progress too slow to spur human capital development

This chapter provides an overview of progress and challenges by governments of ESA countries in their quest to improve the supply and quality of ECD services. It is divided into four sections, with the first highlighting on ECD policy and strategic frameworks in each country. In the second section, information on key ECD indicators is presented. The discussion herein is limited by the paucity of data in most ESA countries. In the third section, the devastating impacts of COVID-19 are briefly explored. Lastly, the chapter examines ECD funding modalities and challenges.

2.1 Encouraging progress on the policy front

The provision of ECD services has become a key policy and development goal of most ESA governments. This drive has been given impetus by the Agenda 2030 on Sustainable Development (Target 4.2) as discussed in the previous chapter. By August 2020, slightly over half of the 21 ESA countries had developed a national ECD policy or strategic framework (Table 2). For some, ECD is included in sectoral policies and strategic frameworks especially on health and education. In Somalia, for example, the National Education Sector Strategic Plan has a dedicated section on early childhood care and education. However, to give ECD the appropriate political profile, governments are encouraged to develop comprehensive and integrated strategic frameworks (WHO, 2020; UNICEF, 2019).

Table 2: ECD policies and strategic frameworks in ESA countries

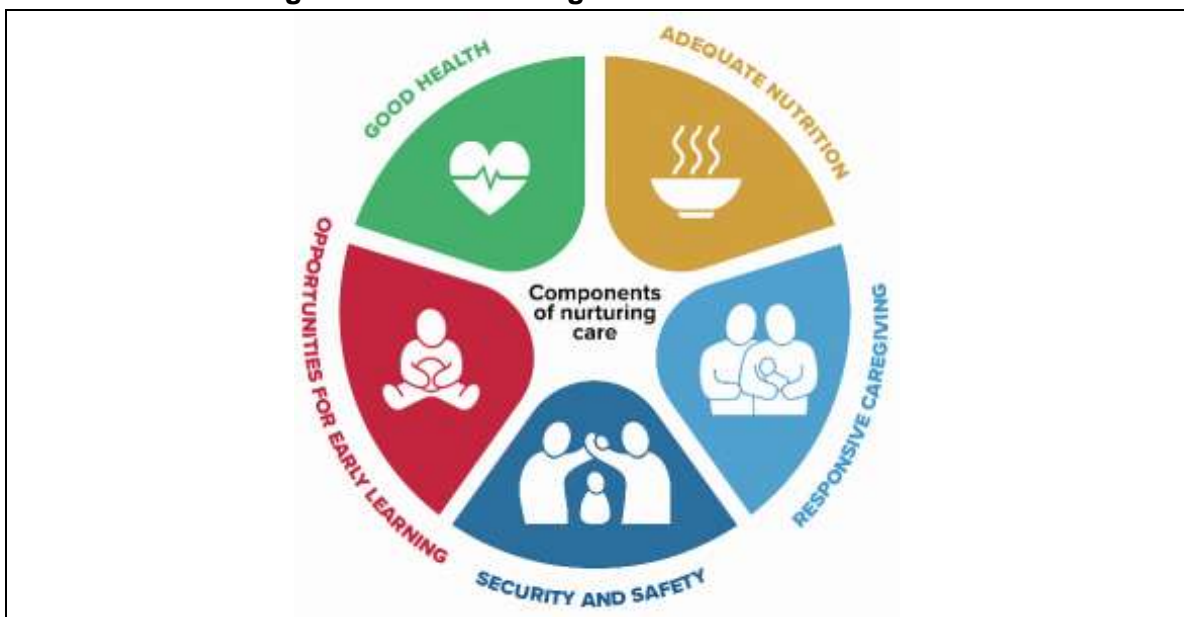
Country	Name of policy or strategic framework	Date enacted
Angola	National Early Childhood Development Policy	2017
Botswana	Early Childhood Care and Education Policy	2001
Burundi	n/a	
Comoros	n/a	
Eritrea	n/a	
Eswatini	n/a	
Ethiopia	National Early Childhood Development and Education Policy	2020
Kenya	National Strategic Plan for Early Childhood Development	2009
Lesotho	National Policy and Strategic Plan for Integrated Early Childhood Care and Development (IECCD), 2013/2014 – 2017/2018	2013
Madagascar	n/a	
Malawi	National Strategic Plan for Early Childhood Development National ECD Policy	2009 2017
Mozambique	n/a	
Namibia	National Integrated Early Childhood Development Policy	2017
Rwanda	Early Childhood Development Policy	2011
Somalia	(ECD included in the Education Sector Strategic Plan 2018-2020)	2018
South Africa	National Integrated Early Childhood Development Policy	2015
South Sudan	n/a	
Tanzania	Integrated Early Childhood Development Policy	2010
Uganda	National Integrated Early Childhood Development Policy	2016
Zambia	Education Strategic Plan 2003 - 2007	2003
Zimbabwe	n/a	

Authors, based on various web searches and interviews with UNICEF Country Offices

ECD is rightfully recognized as a cross sectoral matter in most policies. In line with this characterization, ECD interventions are found in health, education, childcare, social protection, safety and security, and nutrition sectors. The multisectoral nature of ECD is aptly

captured in the Nurturing Care Framework developed by a wide range of global actors including UNICEF (Figure 3). The framework argues that ECD should be delivered through various interrelated components: nutrition, health, early learning, responsive caregiving, and security and safety (World Bank and UNICEF, 2018; UNICEF 2019). In health, for instance, ECD interventions include maternal, pre and post-natal health, immunization, and management of childhood illnesses. Early stimulation activities and pre-primary learning fall under education. Nutrition programs include promotion of breast feeding, supplementary school feeding, and micronutrient supplementation. Responsive care involves services such as parenting education, community-based support and care. Prevention and response services to child-maltreatment fall under the safety and security component (Devercelli, 2012; Pence and Marfo, 2008; UNICEF, 2019).

Figure 2: The Nurturing Care Framework for ECD



Source: nurturing-care.org

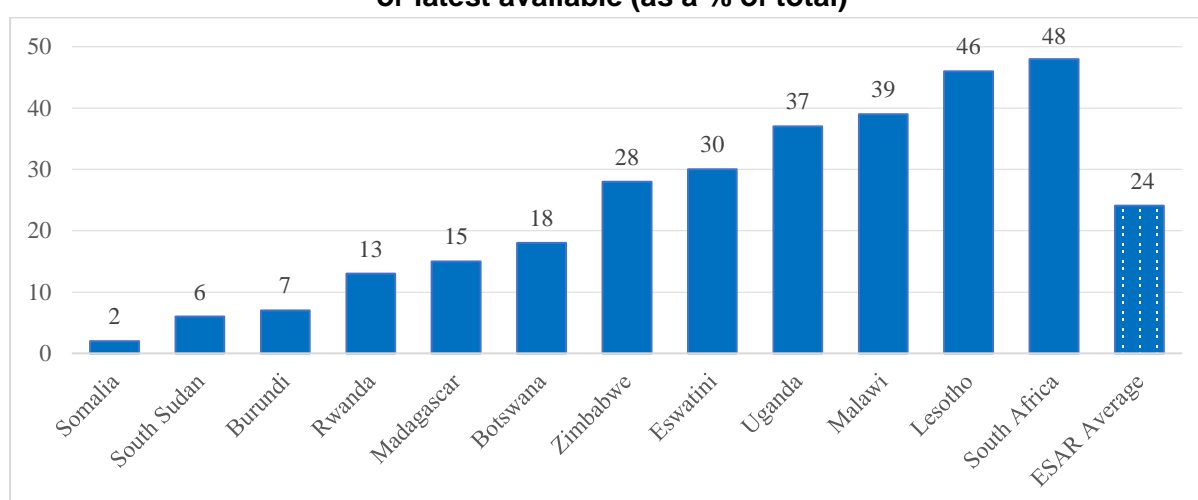
Unfortunately, despite policy provisions, multisectoral coordination in the delivery of ECD services is problematic in most countries. It is not always easy to get all relevant actors to come together to design and implement ECD interventions. Power struggles between ministries and agencies on who should be the custodian of ECD budgets, for instance, have been reported in some countries. Getting various stakeholders to jointly agree on annual budgets to deliver ECD services has, therefore, been a challenge despite the growing emphasis on integrated ECD programming (Pence and Nsamenang, 2008).

Preliminary assessments of ECD policies in ESA point to gaps in several areas. Firstly, most of the policies are not accompanied by elaborated financing strategies. For instance, none of the available policies and strategic frameworks in ESA mention anything on intergovernmental financing mechanisms to guide financial transfers from central to local governments, subsidies, and pricing of ECD services in private and public facilities. Second, challenges have been observed regarding the governance of ECD including coordination of interventions across sectors mentioned above as well as accountability relationships for services delivered and resources spent. Lastly, most policies are silent on equity issues (World Bank and UNICEF, 2018; Atmore, 2013; Pence and Marfo, 2008).

2.2 But ECD progress indicators in ESA are not so good

Despite the proliferation of policies, and progress in the past decade, ECD outcomes in most ESA countries are deficient. The right to early childhood education, for example, remains a pipedream for millions of children in ESA. Based on the latest available data, nearly three quarters of children in ESA between 0-6 years are not accessing early childhood education on average (Figure 4). As of 2019, average attendance rate in early childhood education for the 12 ESA countries where data is available is estimated at 24 percent. However, the attendance rate varies significantly across countries from as low as two percent in Somalia to 48 percent in South Africa (UNICEF, 2020a). The total number of children enrolled for pre-primary education at each point (gross enrollment rate) in time is also very low (Figure 5).

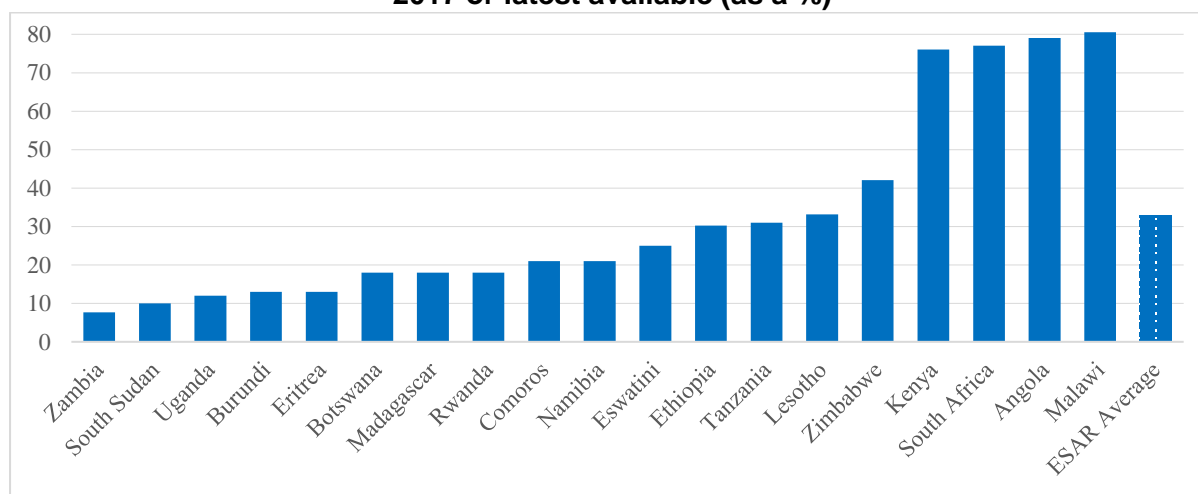
Figure 3: Attendance rate in early childhood education in select ESA countries, 2019 or latest available (as a % of total)



Source: UNICEF Data and Statistics (2020a)

Note: No data for other ESA countries

Figure 4: Gross enrollment ratio in early childhood education in ESA, 2017 or latest available (as a %)



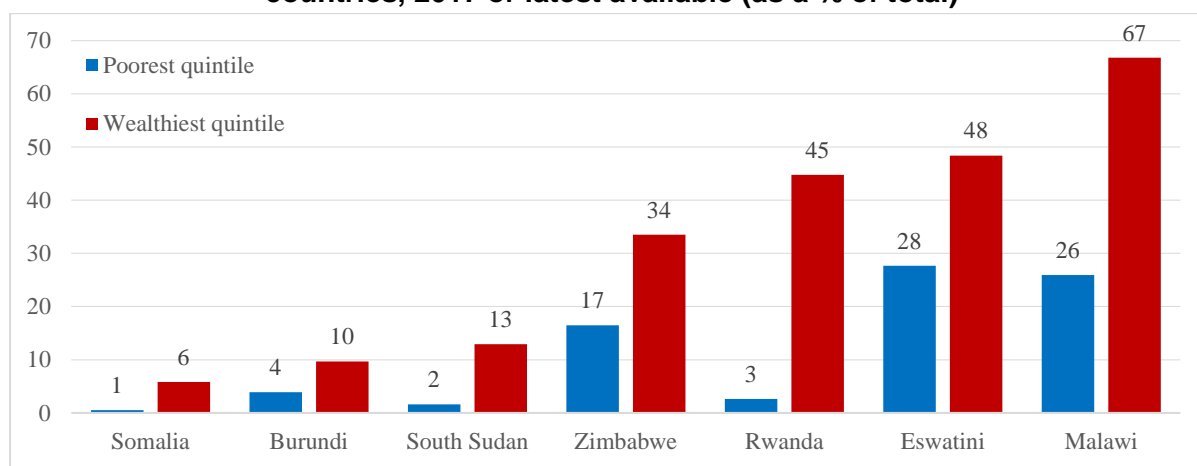
Source: UNESCO Institute for Statistics, 2020

Note: Data unavailable for Eritrea and Somalia

Sadly, most of the children attending pre-school in ESA countries are from wealthy families. Preschool services in most ESA countries, especially in urban areas, are provided

by the private sector at a cost that is prohibitive for poor families, especially those living in rural areas. For the few countries where data is available, children from rich families are three times more likely to be enrolled in pre-primary education than those from poor households (Figure 6). Malnourished children, usually overrepresented in poor households, are least likely to be enrolled early in preschool (UNICEF, 2020a).

Figure 5: Attendance rate in pre-primary education by wealth quintile in select ESA countries, 2017 or latest available (as a % of total)



Source: UNICEF Data and Statistics (2020a)

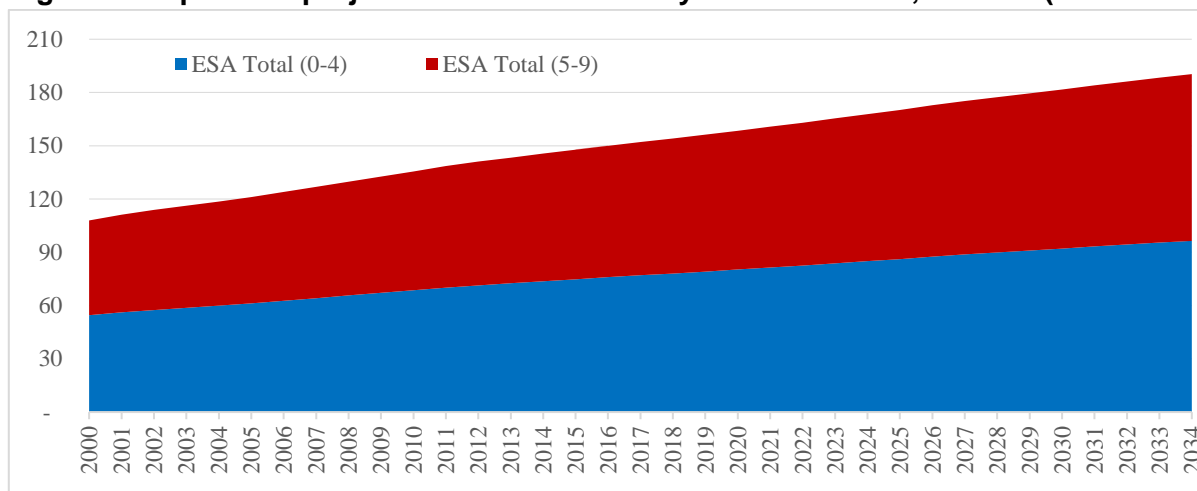
Note: No data for other ESA countries

Millions of children are also deprived of early stimulation and responsive care by adults. For the few countries where data is available, only an estimated 44 percent of children in ESA have access to early stimulation and responsive care by adults on average (UNICEF 2020a). An estimated 80 percent of children below the age of six in ESA go through violent discipline while about 30 percent spend the day alone without adult supervision, on average. Stunting is also prevalent, leading to high infant mortality rate estimated at 45 per 1000 live births in ESA, on average (UNICEF, 2020a).

The supply of ECD services in ESA does not follow a universal model nor is quality the same. ECD services are delivered through various modalities ranging from home-based arrangements, community care services, private care centers, to formal preschool (Pence and Nsamenang, 2008; World Bank and UNICEF, 2018) Similarly, the ECD workforce in ESA is a mixed bag of professionals, paraprofessionals, parents, guardians, and even children in the case of child-headed families. In several ESA countries, it is common for ECD services to be provided by community volunteers with no professional training at all (Atmore, 2013). The time spent by children in formal ECD centers also varies considerably across ESA countries from a few hours to nearly half of a day (Pence and Marfo, 2008; UNICEF, 2020b).

The provision of ECD services is being outpaced by a demographic explosion. The demographic structure of ESA countries, that is very broad at the base, demands a focus on ECD (Figure 7). ESA is home to over 250 million children, with more than 110 million below the age of six (UNDESA, 2020). If ESA countries are to reap the demographic dividend in the next years, they have no option but to prioritize investments in early years (Cummins, 2019). The population surge is, however, exerting pressure on household and public resources to sustain the delivery of quality ECD services.

Figure 6: Population projections for 0-4 and 5-9-year-olds in ESA, 2000-34 (in millions)



Source: UNDESA, 2020

The modest increase in the supply of ECD services has been achieved at the expense of quality. In many countries, ECD programs, especially on early childhood education, are on an expansion mode as countries accelerate the construction of ECD facilities. Regrettably, other crucial elements such as training of the ECD workforce, provision of child-friendly learning materials, and quality assurance have been neglected (World Bank and UNICEF, 2018). In some countries, ECD facilities especially in rural areas, are not equipped with the necessary water, sanitation, and hygiene facilities. In addition, these centers are rarely provided with stimulation and learning materials, let alone budget for the maintenance of facilities (Pence and Nsamenang, 2008). Quality of services has also been compromised by weak quality assurance mechanisms, untrained workforce, and lack appropriate curricula and teaching/learning resources for early childhood education (Atmore, 2013).

National, regional, and global networks have emerged to advocate improved quality and quantity of ECD services. These networks are made up of a broad range of stakeholders such as the United Nations, government ministries and departments, civil society organizations, and private sector players. Advancing the ECD agenda will require collaboration among many actors within and outside government structures.

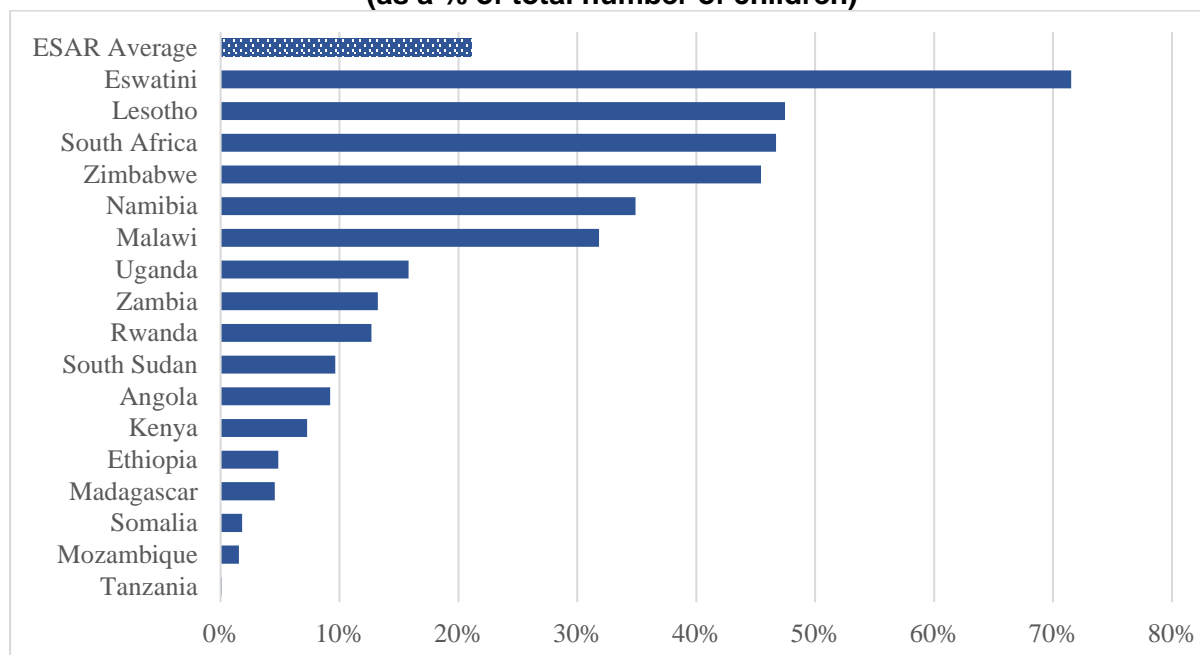
2.3 COVID-19 threatening gains made in the past decade

The pandemic, which is as much a health emergency as it is a socioeconomic crisis, is threatening to reverse gains made in child wellbeing over the past decade. The pandemic has literally put the lives of millions of children at risk of living in sub-optimal conditions during the most critical period of human development (UNESCO, 2020). Essential ECD services, such as newborn care, immunization and early childhood education, are being disrupted. If the pandemic persists, there is a real risk that many of the ECD outcomes will significantly slide back. A UNICEF COVID-19 global survey (November 2020) revealed that almost 90 percent of countries involved in the survey have experienced some level of healthcare disruption, with some services like routine immunization and family planning facing disruption levels above 60%.

Almost every element of the Nurturing Care Framework is being negatively impacted by COVID-19. Children are directly affected by preschool closures, escalating food prices, decreased household income, scarcity of food, and disruption of public services. In nearly all ESA countries preschools were closed at one point in time between March and September 2020. The closures deprived children of learning, school meals, and other childcare services.

The latest available data from the World Food Programme (2020) shows that by end of August 2020 about 29 million children in ESA (21 percent) were missing meals due to the closure of ECD facilities/schools. Eswatini had the highest share of children missing school meals at 71 percent followed by Lesotho 48 percent, South Africa 47 percent, and Zimbabwe 46 percent (Figure 8). Even in countries where schools had opened at the time of writing, most preschools were still closed.

Figure 7: Children missing out on school meals in select ESA countries, as of Aug 2020 (as a % of total number of children)



Source: WFP (August 2020): <https://cdn.wfp.org/2020/school-feeding-map/>

Note: Since information about the age group of children targeted for school meals is not available, the report assumes that the percentage of children is in relation to the total number of children between 0-8, which is the internationally agreed ECD age category.

The pandemic will also continue to take a toll on the emotional and cognitive development of children. Physical distancing, school closure, economic stress to households, caregivers' illness, and limited access to protection services increases stress and risks of children witnessing or being victims of violence, abuse, and neglect. UNICEF field reports point to heightened cases of violent discipline, threatening the security and safety of children in ESA. Reduced household income means that families will be unable to pay for basic services for their children or to meet their basic consumption needs, including food and clean water. Clearly, COVID-19 has worsened an already precarious situation. Before there was a crisis, an estimated 66 percent of children aged 0-5 in Sub-Saharan Africa were in danger of not reaching their full potential and of not acquiring the skills, attitudes and knowledge needed to lead happy and productive lives due to limited access to ECD services (Richter *et al.*, 2017; Britto *et al.*, 2017).

2.4 Diverse but insufficient ECD funding

ECD services are financed by governments, households, private institutions, and donors. In most ESA countries, government funding dominates ECD interventions in the areas of health, education, and social protection (Putcha, 2015). However, most preschools in urban areas are privately owned. Through payment of childcare and preschool fees, household contributions to ECD services in urban areas are therefore quite substantial. Suffice

to say that the concentration of preschools in urban areas in the hands of private owners has equity implications.

The diverse funding arrangements for ECD are mostly uncoordinated. The funding modalities range from government budget allocations, block grants, conditional transfers, to match funding (Putcha, 2015). In few instances where they exist, budget lines for ECD are normally found in ministries of health, education, local government, and/ or social welfare. The potential of innovative financing schemes such as social impact bonds and match funding for ECD investments is yet to be assessed. In South Africa, the Department of Social Development and Health of the Western Cape Province issued a social impact bond valued at US\$1.6 million for ECD in 2016. This is probably the first-ever bond to be issued in ESA (Gardiner and Gustafsson-Wright, 2016).

The limited available evidence shows that public spending on ECD is, however, too low to meet growing financial needs (Putcha et al, 2016). The next chapter will present the latest information on the size of ECD funding to ESA countries. Apart from being insufficient, public spending on ECD tends to be biased towards physical infrastructure, such as constructing childcare or preschool facilities at the expense of other equally important items like training of caregivers, quality assurance, parenting education, and procurement of stimulation and early learning materials (Pence and Nsamenang, 2008). Moreover, ECD does not appear to be a big funding priority for most donors as the next chapter will show.

ECD financing is partly constrained by the weak link between policy planning and resource allocation. To start off, most of the strategic frameworks are not costed. Unfortunately, without cost estimates, it is difficult to influence decisions on national budget allocations towards ECD. Even in the rare case where cost estimates are included in national ECD strategic plans, the estimates are often at tangent with what is provided for in government budgets. Also, most ECD interventions are not reflected in medium-term expenditure estimates, and most program-based budgets do not have progress indicators and targets on ECD.

2.5 Key takeaways

- ECD is increasingly recognized as a key development goal for most ESA countries leading to the formulation of national policies and strategic frameworks.
- Unfortunately, most of the policy documents are not accompanied by robust financing frameworks. This explains the deficiency in ECD outcomes in most ESA countries. The lack of financial and technical resources is a real impediment to the scaling up of ECD services and the improvement of quality.
- The lack of timely, comprehensive, and disaggregated information on ECD is a major hindrance to program planning and budgeting. Addressing this challenge demands that ESA governments strengthen data and information systems at the national and local levels.
- COVID-19 threatens to reverse gains made in the past decade unless governments take actions to safeguard ECD spending ahead of likely fiscal consolidation and accordingly sustain the provision of services during and after the pandemic.

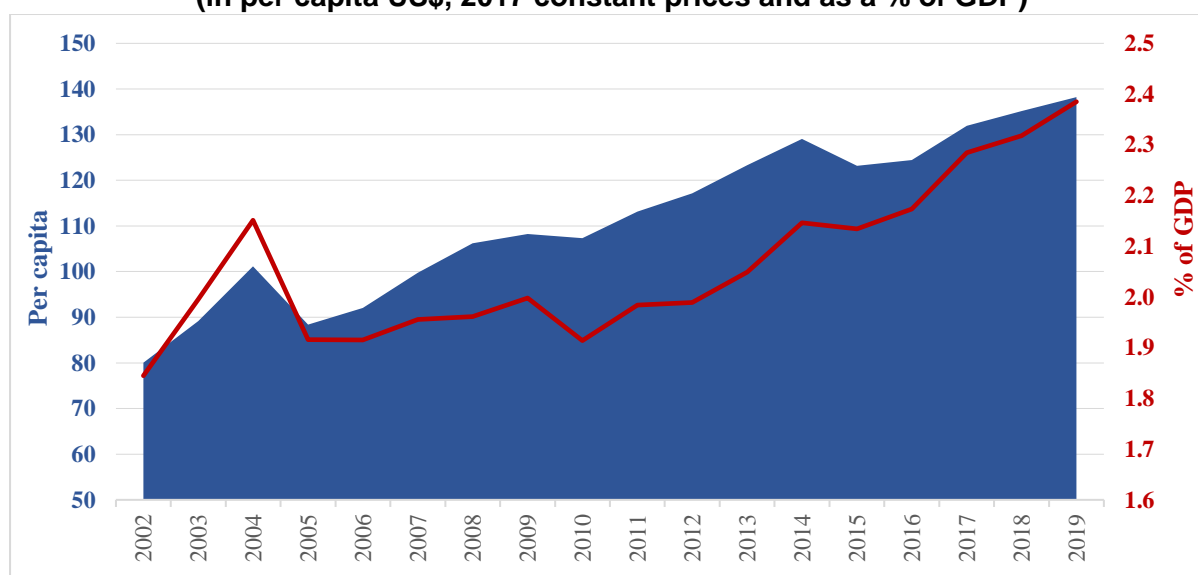
Chapter 3. The Early Years: Are governments and development partners in ESA investing enough?

This chapter addresses the core research question: **To what extent are ESA governments and development partners maximizing investments in the early years of life as argued by Heckman?** It starts by providing an overview of the size of ECD spending by ESA governments and development partners between 2002 and 2019. It then examines ECD spending trends according to different age groups. The chapter ends by looking at the spending outlook for ECD in the context of COVID-19.

3.1 Government and donor spending on ECD modestly trending upwards

Total government expenditure on ECD has modestly trended upwards in the past two decades.⁴ In per capita US dollars (2017 constant prices), the annual growth rate of ECD spending for ESA countries is estimated at three percent on average between 2002 and 2019. During this period, per capita government expenditures on ECD increased by 73 percent from US\$80 to US\$138. However, as a share of GDP, ECD spending by ESA governments increased from an estimated 1.8 percent in 2002 to 2.4 percent in 2019 (Figure 9).

Figure 8: Average government expenditure on ECD (0-6 years) in ESA countries, 2002-19 (in per capita US\$, 2017 constant prices and as a % of GDP)



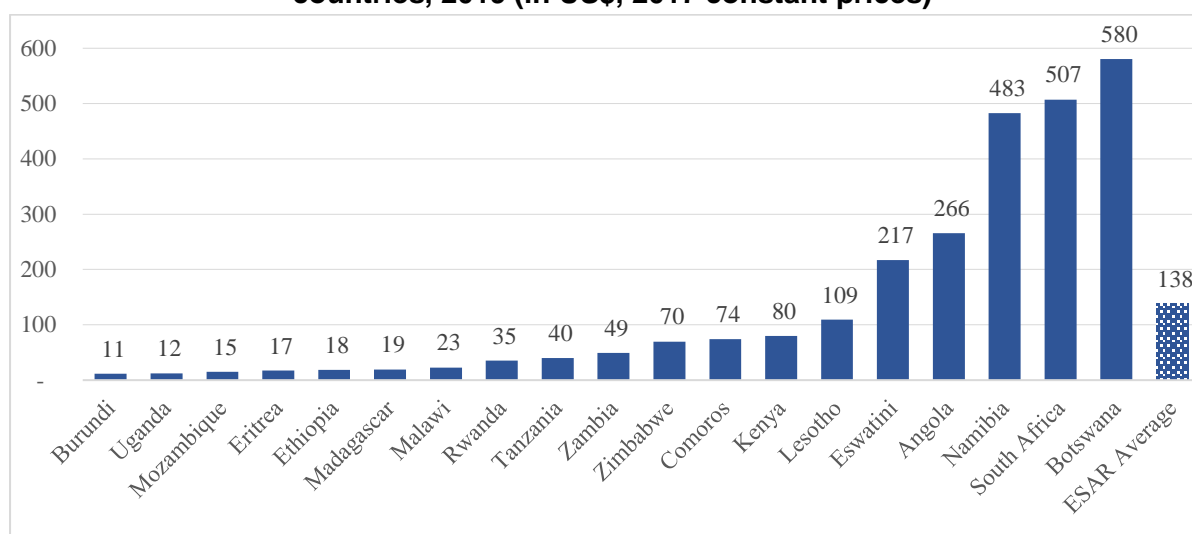
Source: Authors, based on data from WHO, UNESCO, UNDESA and the IMF (2020)

Note: Averages reflect all countries in ESA less Somalia and South Sudan

Government expenditures on ECD vary considerably across countries. In 2019, expenditures on ECD ranged from US\$11 per child per year in Burundi to US\$580 in Botswana (Figure 10). UMICs spend a lot more on ECD than LICs on average. In 2019, while LICs spent \$21 per child on average, LMICs spent 6 times more (US\$124), and UMICs spent an estimated US\$523 per child per year, which is 25 times more than LICs (Figure 11).

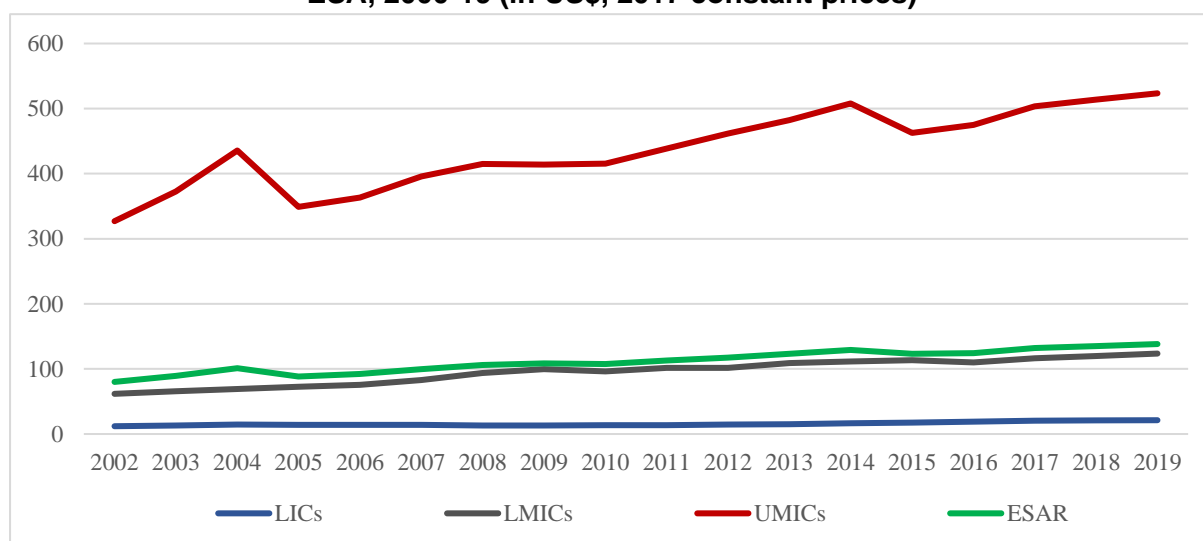
⁴ As detailed in the methodology section, this paper considers spending on health and education for children between 0-6 years as a proxy for ECD expenditure.

Figure 9: Per capita government expenditure on ECD (0-6 years) in select ESA countries, 2019 (in US\$, 2017 constant prices)



Source: Author's calculations, based on data from WHO, UNESCO, UNDESA and the IMF (2020)
 Note: Data unavailable for Somalia and South Sudan

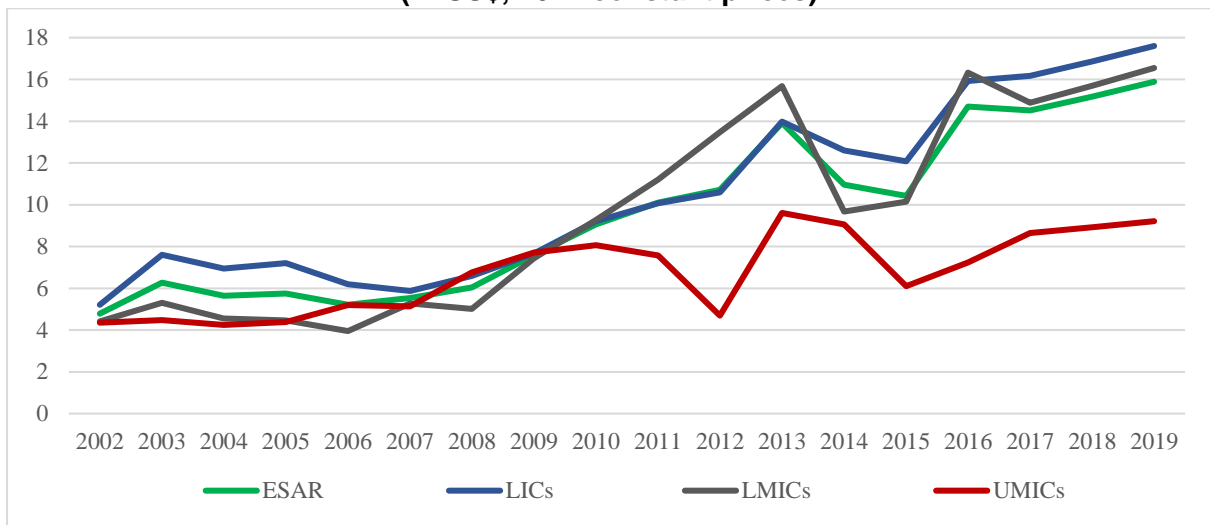
Figure 10: Average per capita government expenditure on ECD by income groups in ESA, 2000-19 (in US\$, 2017 constant prices)



Source: Author's calculations, based on data from WHO, UNESCO, UNDESA and the IMF (2020)
 Notes: LICs include Burundi, Eritrea, Ethiopia, Madagascar, Malawi, Mozambique, Rwanda, Tanzania and Uganda; LMICs include Angola, Comoros, Eswatini, Lesotho, Kenya, Zambia and Zimbabwe; UMICs include Botswana, Namibia and South Africa.

ODA flows earmarked for ECD programs in ESA countries have also slightly increased over time. On average, they grew from an estimated US\$6 per person in 2002 to US\$16 in 2019 (Figure 12). As expected, most of the ODA is channeled to LICs and LMICs. In 2019, donors contributed about US\$18 per child per year in LICs compared to US\$17 in LMICs and US\$9 in UMICs on average; equivalent to 46 percent, 12 percent and 2 percent of the total ECD spending per year respectively.

Figure 11: Average per capita donor spending on ECD by income groups in ESA, 2002-19 (in US\$, 2017 constant prices)

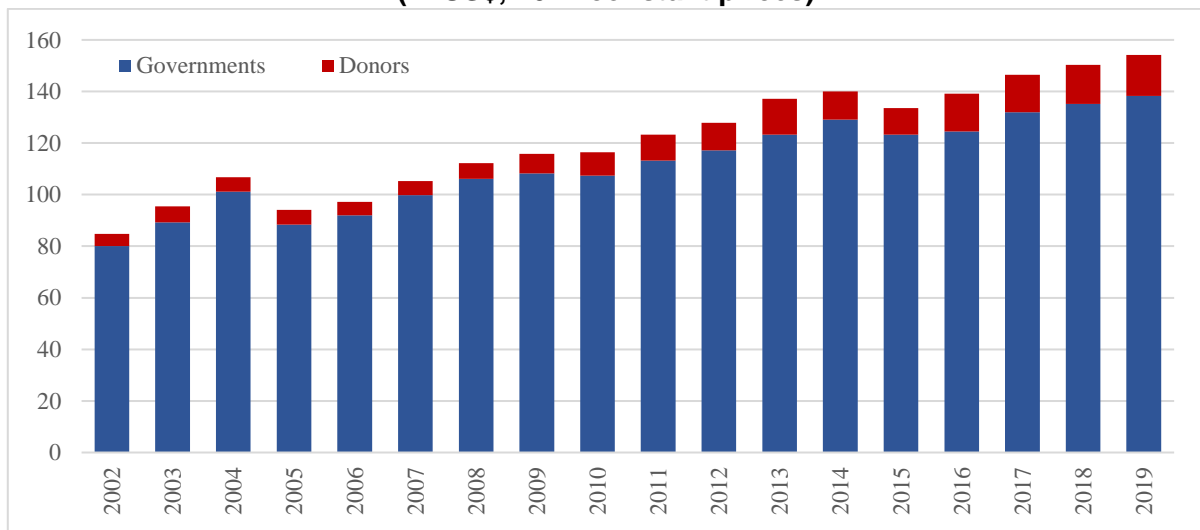


Source: Author's calculations, based on data from OECD Statistics and UNDESA.

Notes: LICs include Burundi, Eritrea, Ethiopia, Madagascar, Malawi, Mozambique, Rwanda, Tanzania and Uganda; LMICs include Angola, Comoros, Eswatini, Lesotho, Kenya, Zambia and Zimbabwe; UMICs include Botswana, Namibia and South Africa.

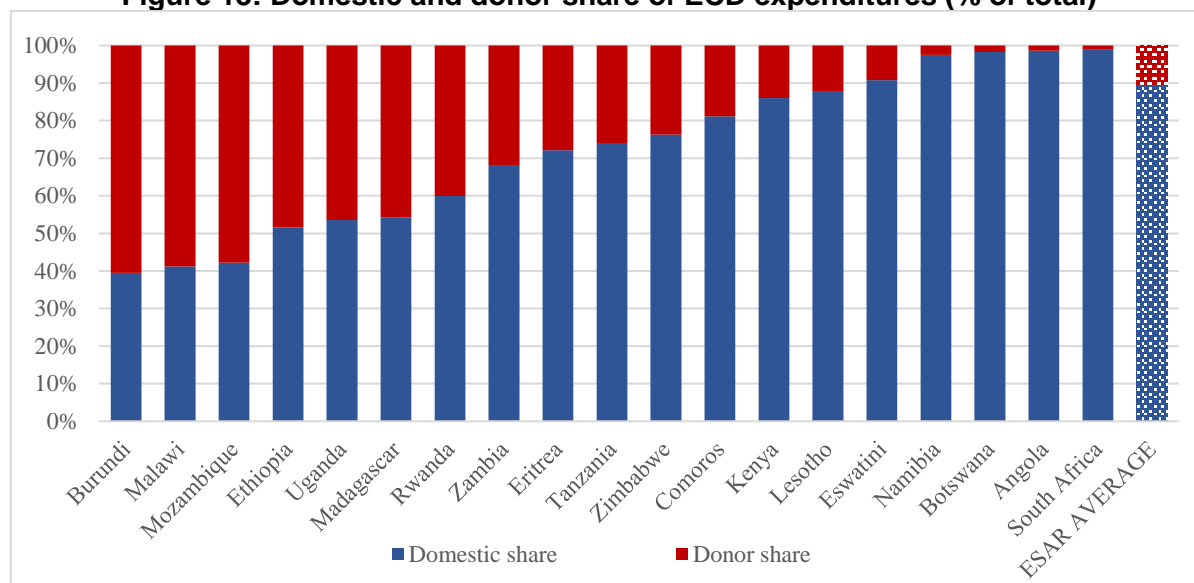
Although trending upwards, ODA flows to ESA constitute a very small fraction of total ECD expenditures. ODA flows averaged eight percent of total ECD expenditure between 2002 and 2019. In 2019, while per capita government expenditure on ECD for all ESA countries was US\$138, per capita ODA is estimated at US\$16 (Figure 13). Regional averages however tend to mask realities of each country, as some countries are more donor dependent. In 2019, over half of ECD expenditures for Burundi (69 percent), Malawi (59 percent), and Mozambique (58 percent) came from donors compared to one percent for Angola and South Africa (Figure 14).

Figure 12: Average per capita government and donor spending on ECD in ESA, 2002-19 (in US\$, 2017 constant prices)



Source: Author's calculations, based on data from WHO, UNESCO, OECD Statistics, UNDESA and the IMF (2020)

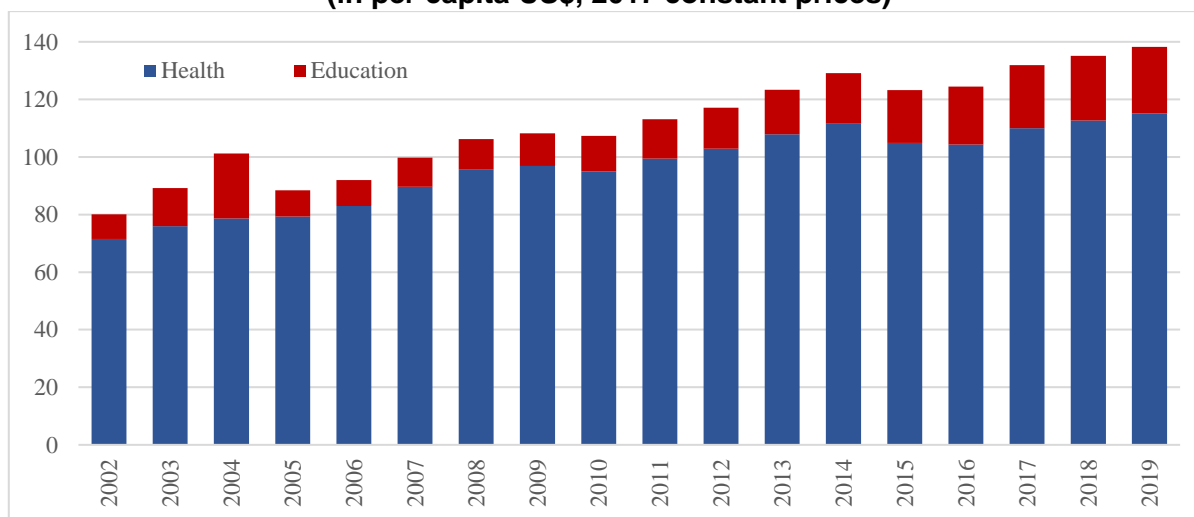
Figure 13: Domestic and donor share of ECD expenditures (% of total)



Source: Author's calculations, based on data from WHO, UNESCO, OECD Statistics, and the IMF (2020)

The bulk of government and donor expenditures on ECD is through the health sector. The most common programs to which funding is channeled are immunization, pre-and post-natal care, reproductive health, and management of childhood illnesses. Between 2002 and 2019, health programs accounted for an estimated 87 percent of ECD expenditures (Figure 15). As said earlier, these figures should be interpreted with caution as they overstate health expenditures. Also, they are estimates and not direct budget lines added together.

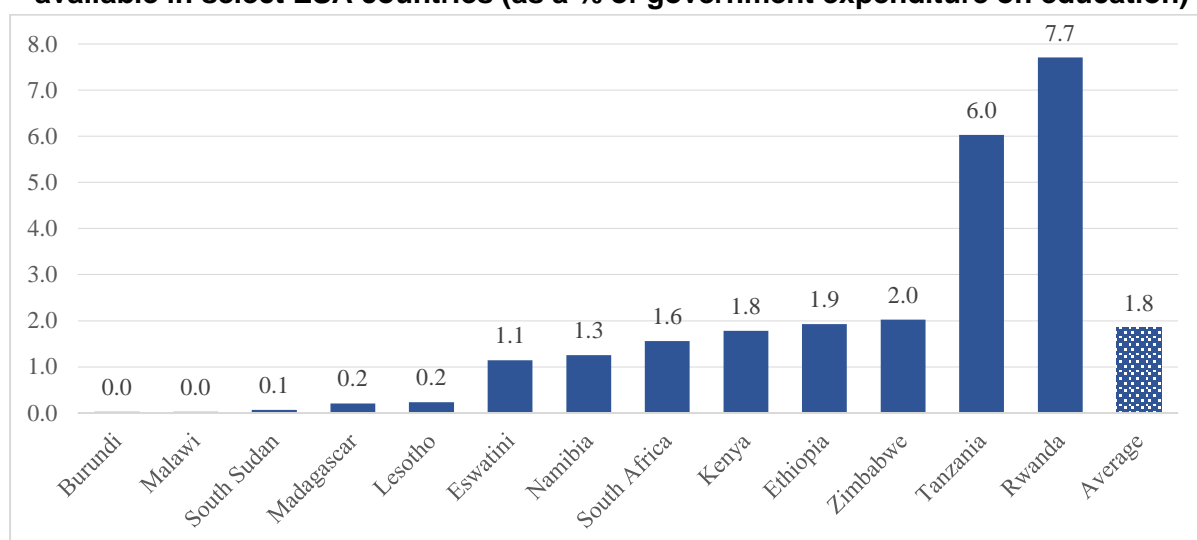
Figure 14: Composition of government spending on ECD in ESA, 2002-19 (in per capita US\$, 2017 constant prices)



Source: Authors calculations, based on data from WHO, UNESCO, UNDESA and the IMF (2020)

Funding for pre-primary education is a very small fraction of the total education spending across sub-Saharan Africa. Data from UNESCO shows that countries spend an estimated two percent of their education budgets on pre-primary education on average (Figure 16), which is much lower than the recommended international target of 10 percent. Available evidence suggest that the pre-primary education expenditures as a percentage of total government budgets on education in sub-Saharan Africa barely changed since 2002 (Figure 17) (Putcha *et al.*, 2016).

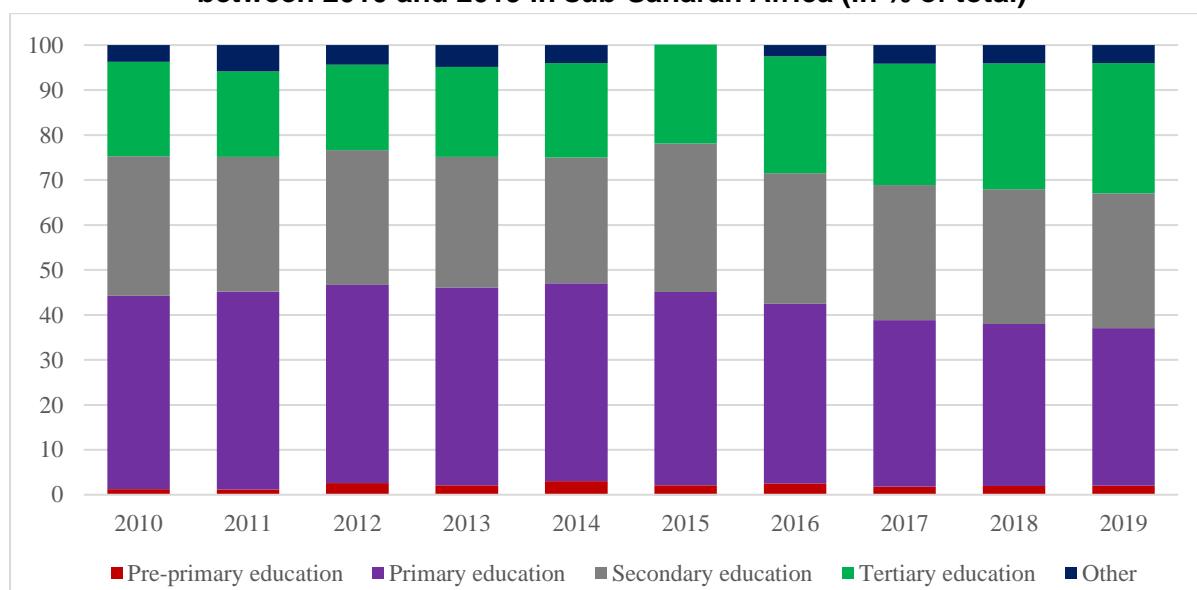
Figure 15: Government expenditure on early childhood education, 2017 or latest available in select ESA countries (as a % of government expenditure on education)



Source: UNESCO Institute for Statistics, 2020

Note: Data unavailable for other ESA countries.

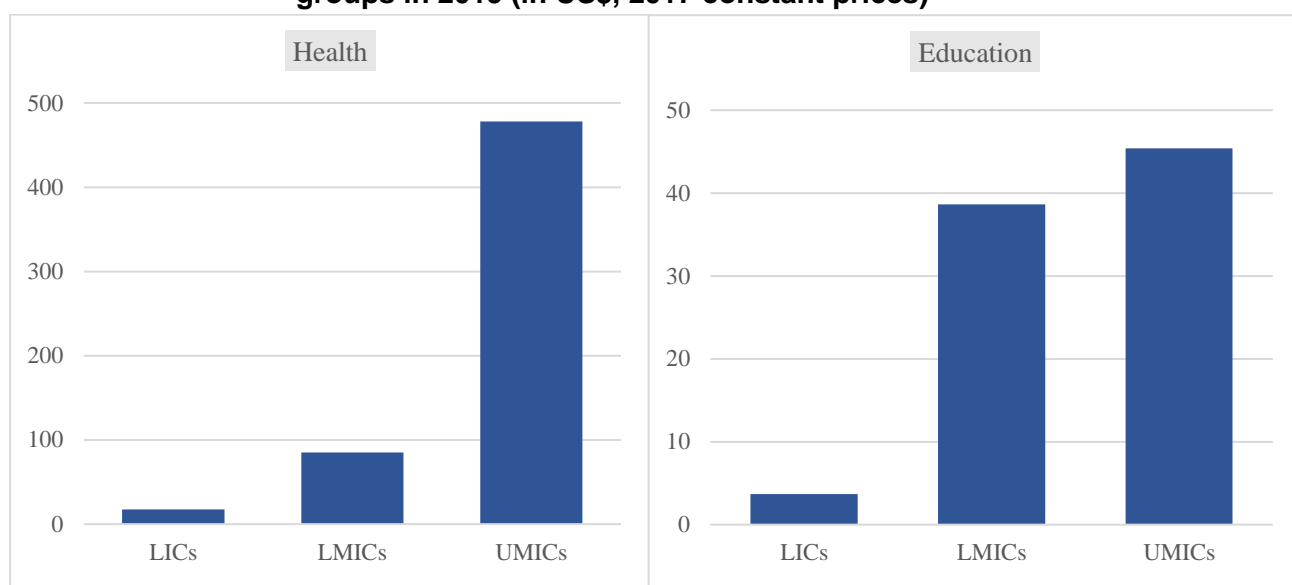
Figure 16: Distribution of government expenditure on education across subsectors between 2010 and 2019 in sub-Saharan Africa (in % of total)



Source: UNICEF Data and Statistics and UNESCO Institute for Statistics (2020)

Huge disparities in pre-primary education financing also exist by income groups, with UMICs in ESA spending a lot higher than LICs and LMICs on ECD. In 2019, LICs spent approximately US\$4 per child per year on early childhood education compared to US\$39 for LMICs and US\$45 for UMICs. The same pattern is observed for health; with LICs spending approximately US\$17 on ECD compared to US\$85 for LMICs and US\$478 for UMICs per child per year on average (Figure 18). With this comparison, allocations to health and education expenditures by LICs seem like drops in the ocean.

Figure 17: Average per capita government spending on ECD by sector and by income groups in 2019 (in US\$, 2017 constant prices)



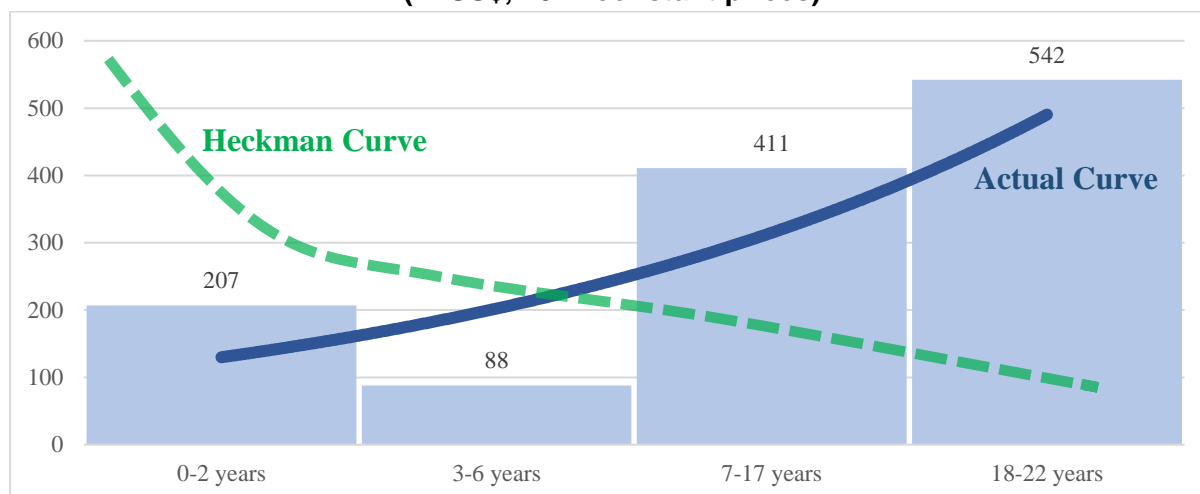
Source: Author's calculations, based on data from WHO, UNESCO, UNDESA, and the IMF (2020)

In short, although modestly trending upwards public spending on ECD in ESA countries is too low to make a difference. A mere look at spending per person each year shows that expenditures can barely support a minimum package of ECD services. Due to unavailability of international benchmark on total ECD spending, it is difficult to precisely estimate adequacy of expenditures.

3.2 Public spending on ECD going in opposite direction to the Heckman curve

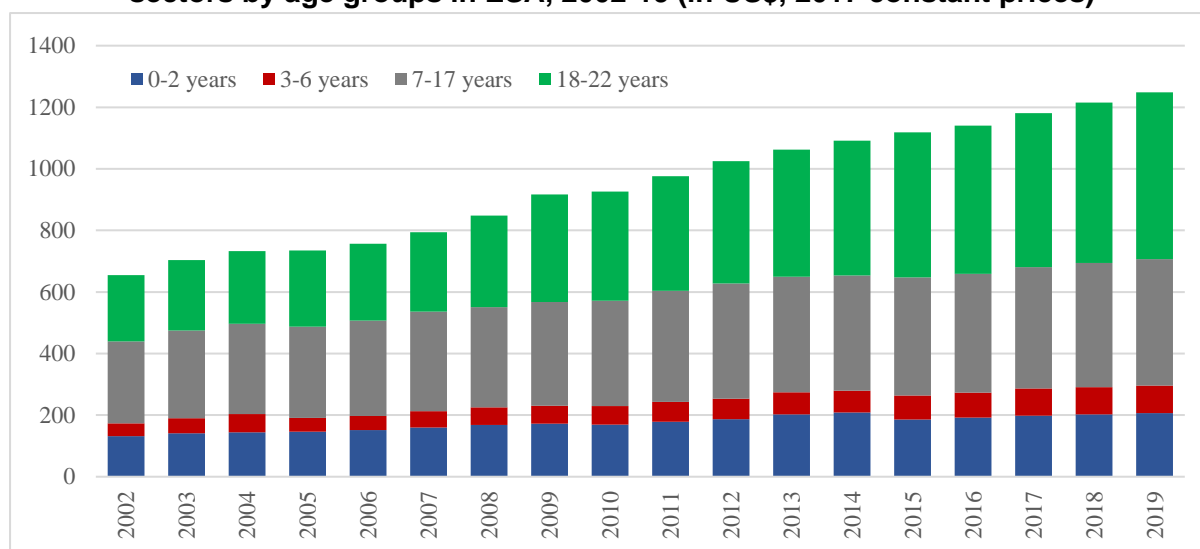
Despite overwhelming evidence on the rate of return, public investments in ECD in ESA do not follow the Heckman curve. In 2019, ESA countries and their development partners spent on average US\$542 per capita for children aged 18-22, US\$411 for those aged 7-17, US\$207 for the 0-2 and only US\$88 for children between 3-5 years old (Figure 19). In a nutshell, public spending on core human capital sectors is going in the opposite direction to the Heckman curve. Children between 3-6 years are the most neglected. Government spending on this age group in 2019 was six times less than the 18-22 age group and about 5 times than the 7-17 age group. Children aged 0-2 are better off but still around half of the investment for children between 7 and 22. This distribution remained virtually unchanged in recent years (Figure 20).

Figure 18: Average per capita government and donor spending on core human capital sectors by age group in ESA compared with the Heckman Curve, 2019 (in US\$, 2017 constant prices)



Source: Author's calculations, based on data from WHO, UNESCO, UNDESA, OECD Statistics, and the IMF (2020)
 Note: The Heckman curve is for illustrative purposes; it is not drawn to scale.

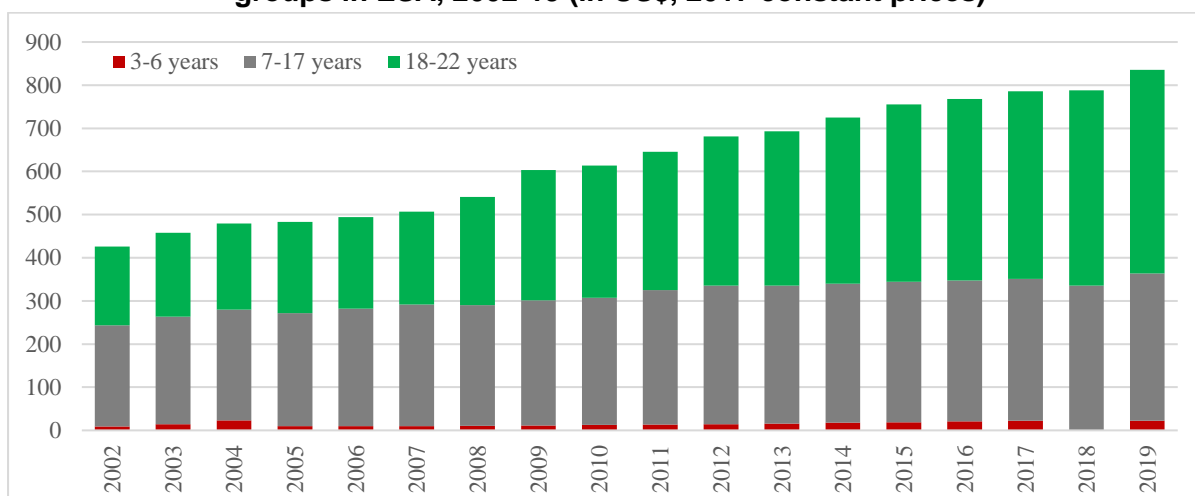
Figure 19: Average per capita government and donor spending on core human capital sectors by age groups in ESA, 2002-19 (in US\$, 2017 constant prices)



Source: Author's calculations, based on data from WHO, UNESCO, UNDESA, OECD Statistics, and the IMF (2020)

Investments in pre-primary education are a drop in the ocean compared to other education levels. In 2019, ESA governments and development partners spent on average US\$23 on pre-primary education (3-6 years), compared to US\$341 for primary and secondary (7-17 years), and US\$471 for tertiary education (18-22 years) (Figure 21). Even after discounting for the relatively high cost of other levels, pre-primary education is still comparatively under-funded. The paltry investments in pre-primary education is one of the main reasons why access and quality of early learning services in most ESA countries is poor.

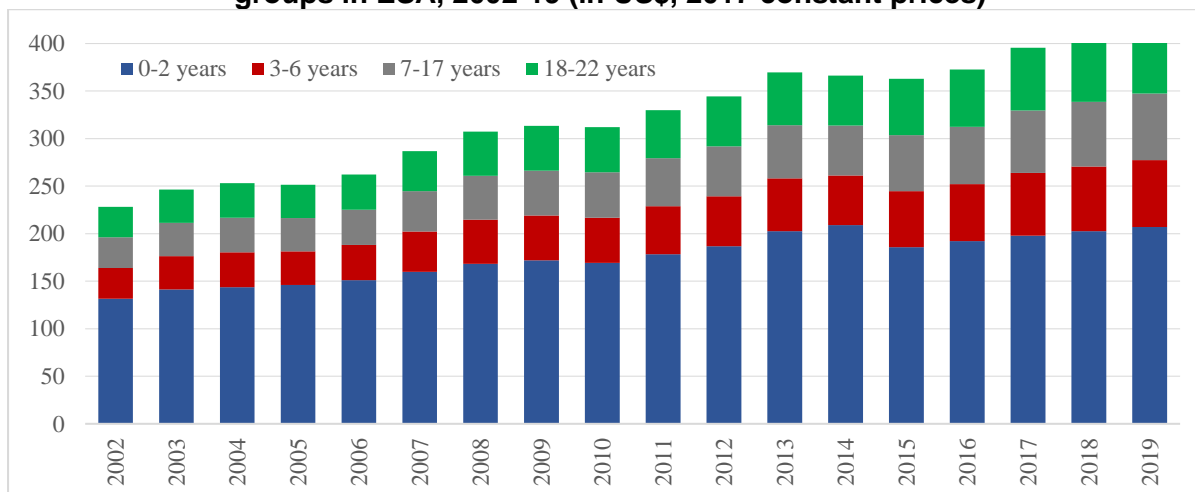
Figure 20: Average per capita government and donor spending on education by age groups in ESA, 2002-19 (in US\$, 2017 constant prices)



Source: Author's calculations, based on data from UNESCO, UNDESA, OECD Statistics, and the IMF (2020)

Spending on health shows a slightly different trend, with governments and donors in ESA spending more on the 0-2 years than other age groups (Figure 22). This is due to the relatively high expenditures on immunization, management of childhood illnesses, reproductive health, and nutrition. Given limited disaggregation of data in government and donor budgets it was not possible to clearly distinguish health expenditure for the three other age groups, hence the assumption is that they benefit from a similar per capita investment.

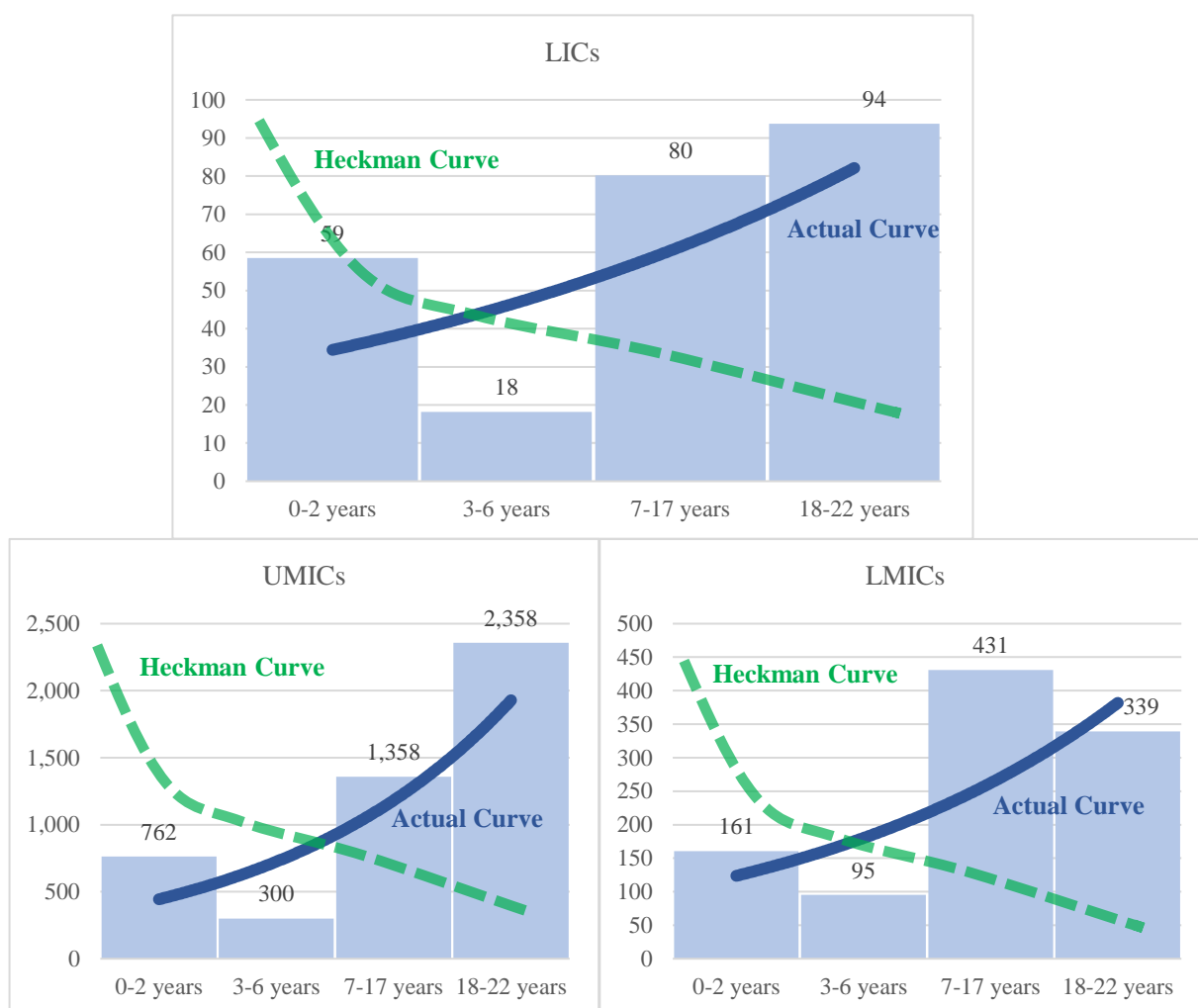
Figure 21: Average per capita government and donor spending on health by age groups in ESA, 2002-19 (in US\$, 2017 constant prices)



Source: Author's calculations, based on data from WHO, UNDESA, OECD Statistics, and the IMF (2020)

The under prioritization of early years is common in all income groups, although spending per person varies significantly. In 2019, UMICs invested approximately US\$2,360 on health and education for the 18-22 age group on average. This is markedly higher than US\$1,360 for children aged 7-17, US\$300 for the 3-5 years and US\$760 for those under two. On average LMICs invested US\$340 for young people aged 18-22 years, US\$430 for the 7-17 age group, US\$95 for the 3-6 and 160 for the 0-2-year olds. Investments by LICs is very low, estimated at US\$93 for the 18-22 years, US\$80 for the 7-17-year olds, US\$18 for the 3-6 years and US\$58 for children between 0-2 years (Figure 23). Overall, all the three income groups present a significantly higher share of their budgets on the 7-17 and 18-22 years compared to younger children, in direct opposite trend to the Heckman curve.

Figure 22: Average per capita government and donor spending on core human capital sectors by age and income groups in ESA compared with the Heckman Curve, 2019 (in US\$, 2017 constant prices)

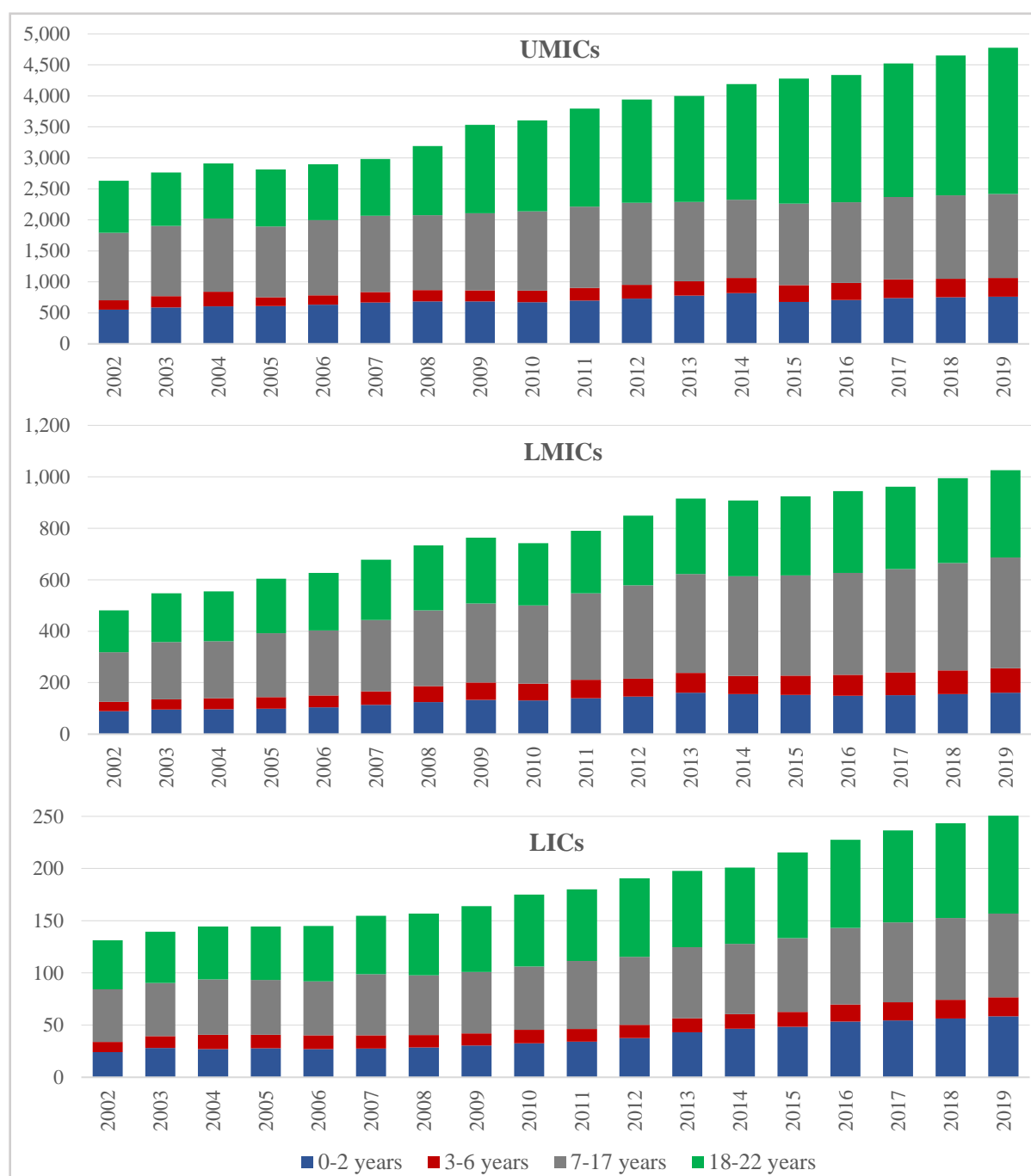


Source: Author's calculations, based on data from WHO, UNESCO, UNDESA, OECD Statistics, and the IMF (2020).

Note: The Heckman curve is for illustrative purposes; it is not drawn to scale

Although ECD Investments grow over time for all income groups, the pattern of expenditure does not seem to change. From 2002 to 2019, per capita investments grew slowly but steadily across all income groups and age groups (Figure 24). Trends over time clearly show how the 7-17 and 18-22 groups compete for the highest per capita investment – with investments for the 18-22 age group. The 3-6 years age group is lagging for all income groups.

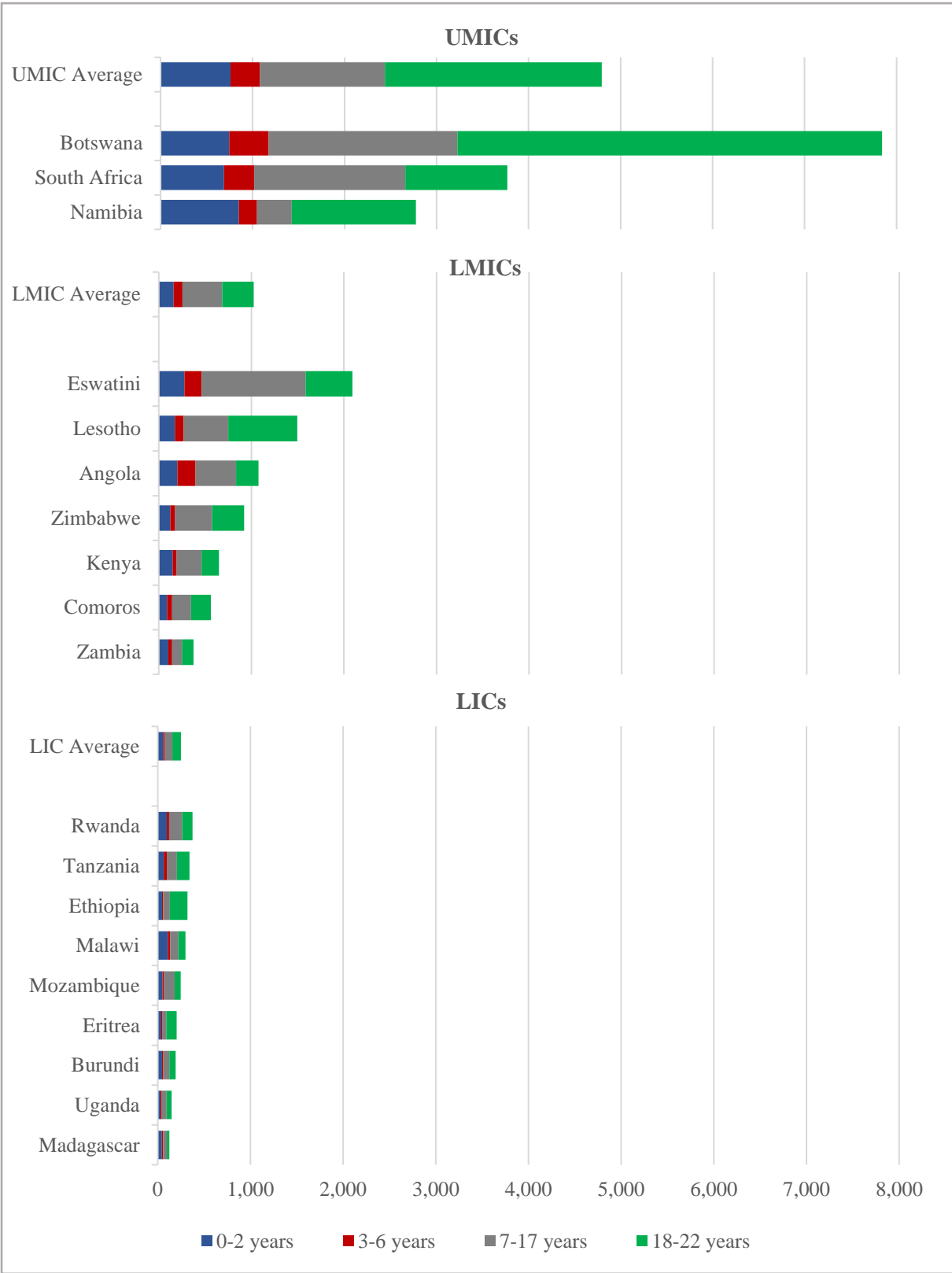
Figure 23: Average per capita government and donor spending on core human capital sectors by age and income groups, 2002-19, (in US\$, 2017 constant prices)



Source: Author's calculations, based on data from WHO, UNESCO, UNDESA, OECD Statistics and the IMF (2020)

There are, however, some slight variations across the 19 ESA countries where data was analysed. LMICs invest the highest amount on the 7-17 age group on average, although this trend is largely driven by Eswatini and Lesotho. LICs tend to devote more resources to the 18-22 age group (Figure 25).

Figure 24: Average per capita spending on core human capital sectors by age groups in ESA countries, 2019 (in US\$, 2017 constant prices)



Source: Author's calculations, based on data from WHO, UNESCO, UNDESA, OECD Statistics and the IMF (2020)

3.3 Key takeaways

- Not a single country in ESA follows an investment pattern suggested by the Heckman curve to maximize investments early on in life.
- Although ECD spending by ESA countries maintained an upward trajectory in the past two decades, it remains insufficient to provide quality ECD services to all children.
- The bulk of investments for ECD go to health-related interventions, with very limited funding invested in early childhood education.
- Children between the ages of 3-6 are benefitting the least from available public resources, which is suggestive of under-investment in early childhood education.

Chapter 4. Funding Gaps and the Spending Outlook in the Context of COVID-19

COVID-19 has exerted intense pressure on public finances across ESA, leading to widening of funding gaps across sectors. The IMF estimates that Africa will need an additional US\$1.2 trillion between 2020 and 2023 to be on track to achieve SDGs (IMF, 2020a). ECD spending has not been spared. In this chapter, two questions are answered: (i) how significant was the ECD funding gap if compared to international benchmarks on health and education spending in 2019; and (ii) what is the spending outlook for ECD considering economic contractions induced by COVID-19? The chapter is therefore divided into two parts, with the first estimating the funding gap as of December 2019. The second section presents projections of ECD spending in 2020 and 2021 based on analysis of elasticity of expenditures to changes in real gross domestic product.

4.1 Estimated ECD funding gap in ESA countries

As of 2019, ESA countries had spent on ECD half of the amount required to meet international targets on health and education spending.⁵ According to the Incheon Declaration⁶ (UNESCO, 2015) governments are expected to spend 4-6 percent of their GDP on education whilst the Chatham House⁷ recommendation requires governments to invest five percent of their GDP on health. In this paper, five percent is used as the average ideal spending on education. If all ESA countries were to meet both targets and if the distribution of health and education expenditure across age groups remained the same as the past decade, total expenditure on ECD for the region would have been US\$16.1 billion. Unfortunately, the estimated expenditure for the region in 2019 was US\$8.4 billion for children between 0-6 years, implying a funding gap of 91 percent (US\$7.7 billion). However, closing the funding gap is only one side of the story; the other side is to ensure redistribution across age groups to

⁵ The funding gap is the difference between the actual expenditure and what is required to meet the targets in both sectors (health and education). The paper focused on the estimates for 2019. The internationally recommended benchmark for health is five percent of GDP, while for education it is 4-6 percent. For the purposes of this paper, five percent is used as the average benchmark for education. In calculating the funding gap, the first step entailed applying the internationally recommended five percent to GDPs of ESA countries in 2019 for each sector. Second, the shares of health and education for the 0-6 group in 2019 as a share of the respective sector expenditure were calculated. Third, these shares were applied to the results of the first step to estimate how much health and education expenditure for 0-6 would be if the five percent targets were to be met for each sector. Fourth, the difference between the results of step two and three was calculated to obtain the funding gap in each sector. Lastly, the overall funding gap for ECD was calculated by summing gaps in the two sectors. Put simply, the funding gap is the difference between the estimated ECD actual expenditure and what governments would have spent if they were to spend a proportional share of the five percent of their GDPs on health and education for children between 0-6 years. As indicated earlier, while these figures should be treated with caution because they are simply estimates they help paint a picture of the size of spending. Most importantly, closing the funding gap is only one of the policy challenges, the other is to ensure redistribution of resources across age groups to maximize investments early on in life.

⁶ The [Incheon Declaration](#) was adopted on 21 May 2015 at the World Education Forum (WEF 2015) held in Incheon (Republic of Korea) and organized by UNESCO together with UNICEF, the World Bank, UNFPA, UNDP, UN Women and UNHCR. It was finalized by the Drafting Group for the Education 2030 Framework for Action and adopted by 184 Member States and the education community during a high-level meeting at UNESCO in Paris on 4 November 2015. The declaration constitutes the commitment of the education community to Education 2030 and the 2030 Agenda for Sustainable Development and it is linked to a Framework for Action for implementing SDG 4.

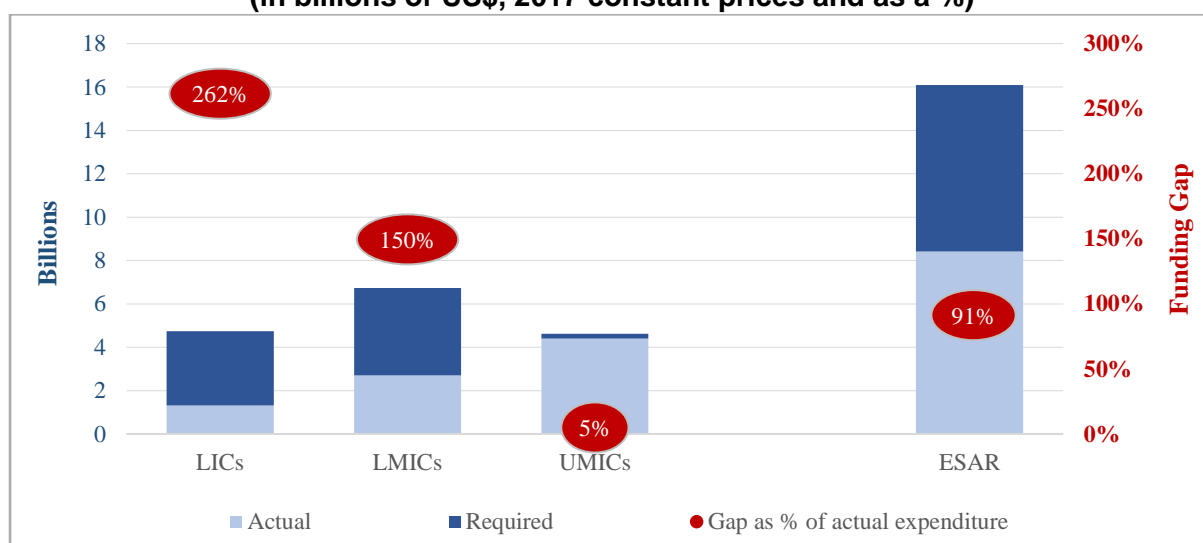
⁷ Chatham House is an independent policy institute. Its Centre on Global Health Security established two working groups in 2011 on health governance and financing. The report "[Shared Responsibilities for Health. A Coherent Global Framework for Health Financing](#)", published in 2014, presents the key findings from the second working group, and includes the recommendation that each government should commit to spend at least 5 percent of GDP on health.

mirror Heckman’s recommendations and to ensure that governments are maximizing their returns on human capital.

The funding gap is greater in relative terms for LICs than other income groups in ESA.

The gap in LICs is estimated at 262 percent followed by LMICs at 150 percent and lastly UMICs at five percent in total (Figure 26). There are however huge variances amongst countries in the same income bracket (Figure 27) with Zambia, Mozambique, Comoros, Uganda, Ethiopia, and Eritrea having funding gaps over 200 percent. As of 2019, the total funding gap for LICs was US\$3.43 billion with that of LMICs estimated at US\$4 billion, and US\$220 million for UMICs.

Figure 25: Estimated actual government expenditure on ECD and funding gaps to meet international spending targets by income groups in ESA, 2019 (in billions of US\$, 2017 constant prices and as a %)

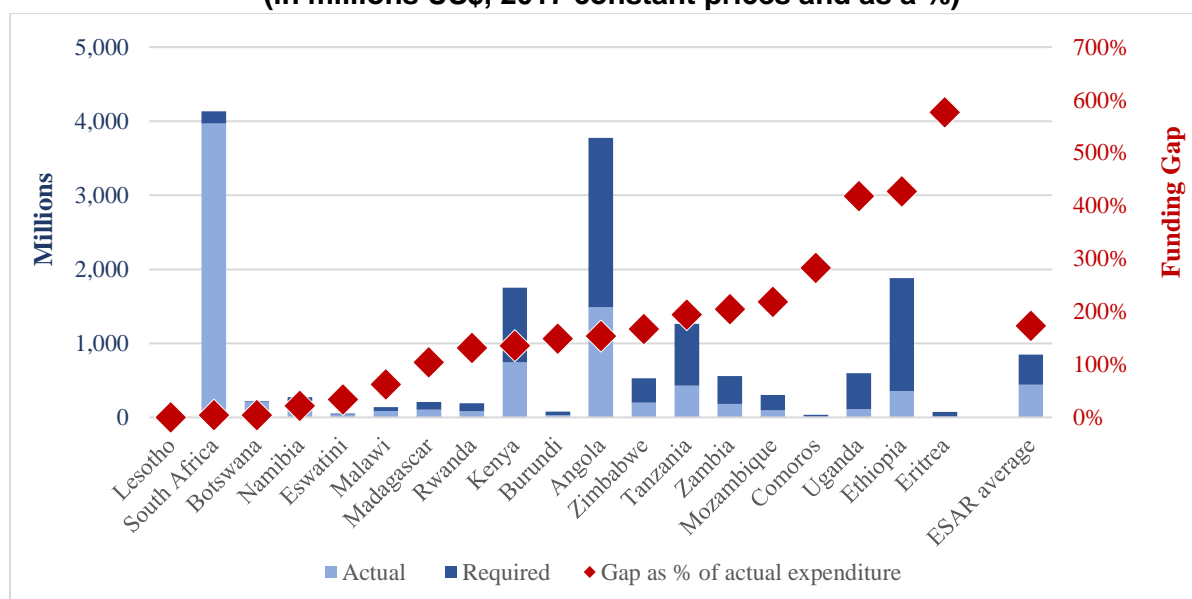


Source: Authors, based on data from WHO, UNESCO, UNDESA, and the IMF (2020)

Note: Excludes Somalia and South Sudan due to data unavailability

The funding gap is the difference between the actual expenditure and what is required to meet the targets in both health and education. Spending targets used for this paper are those from the Incheon Declaration for education expenditure and from Chatham House for health. The recommended benchmark for health is five percent of GDP, while for education it is 4-6 percent. In this paper, five percent is used as the average benchmark for education (please see footnotes 5,6, and 7 for details).

Figure 26: Estimated actual government expenditure on ECD and funding gaps to meet international spending targets in ESA, 2019 (in millions US\$, 2017 constant prices and as a %)



Source: Authors, based on data from WHO, UNESCO, UNDESA, and the IMF (2020)

Note: Excludes Somalia and South Sudan due to data unavailability

The funding gap is the difference between the actual expenditure and what is required to meet the targets in both health and education. Spending targets used for this paper are those from the Incheon Declaration for education expenditure and from Chatham House for health. The recommended benchmark for health is five percent of GDP, while for education it is 4-6 percent. In this paper, five percent is used as the average benchmark for education (please see footnotes 5,6, and 7 for details).

4.2 Spending outlook for ECD in 2020 and 2021

COVID-19 added extreme pressures on public finances, and ECD seems to be hard hit.

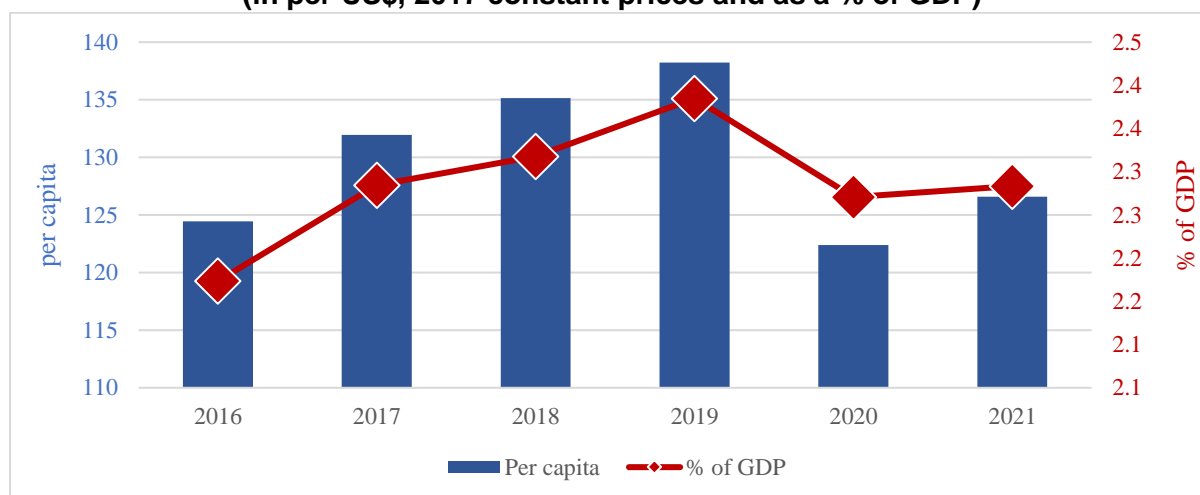
As discussed in the preceding sections, well before the crisis, governments in ESA were not investing sufficiently in the health and education of children between 0-6 years. The pandemic has triggered the biggest economic contraction in ESA in at least 40 years (Cummins, 2020) with far-reaching implications on the capacity of governments to mobilize domestic revenue to invest in ECD. For instance, economic activity in ESA was projected to contract by 2.4 percent, on average, in 2020 which was estimated to result in at least US\$35 billion in lost tax revenue (UNICEF ESARO, 2020). Non-tax revenue also collapsed during 2020 in most ESA countries, due to significantly lower income from tourist activities, business licenses, immigration fees, user fees for utilities, trade tests, certification of products, and other government services. ODA, which had been flatlining in recent few years, was also projected to be lower than expected.

In line with the massive economic contractions across ESA, it is estimated that ECD spending will fall in 2020 compared to 2019, before a modest increase in 2021. The projections are based on analysis of elasticity of ECD spending to changes in real GDP.⁸

⁸ The elasticity analysis started with calculation of natural logs of per capita real GDP and per capita ECD expenditures for each ESA country. The logged per capita spending for each country was regressed against real GDP per capita using the random effects regression model to get the elasticity coefficients per country. Since data was logged, the regression coefficients were taken as the elasticity coefficients. The elasticity coefficients and the expected percentage change in real GDP for 2020 and 2021 obtained from IMF's 2020 June update was used to project ECD spending per person for 2020 and 2021. expenditures in 2020 and 2021. A similar process was followed for WASH and social protection but using spending data from government spending watch between 2016 and 2019.

Government spending on ECD is expected to fall from an estimated US\$138 per person in 2019 to US\$122 in 2020 before slightly increasing to US\$126 in 2021 (Figure 28). As a percentage of GDP, ECD spending will marginally fall from 2.4 percent in 2019 to 2.3 percent in 2020. The decrease in ECD spending is likely to be worsened by the disproportionate focus on spending on the health emergency and fiscal stimuli packages to rescue economic activity.

Figure 27: Average projected spending on ECD by ESA countries, 2016-21
(in per US\$, 2017 constant prices and as a % of GDP)



Source: Authors, based on elasticity analysis of ECD spending to projected changes in real GDP in 2020 and 2021 using data from the IMF (WEO) and WB (WDI).

Note: Somalia and South Sudan not included due to unavailability of data.

The spending outlook for ECD is bleaker if considering the likely upcoming period of austerity. Experience from the global financial crisis taught us that economic shocks are usually followed by fiscal consolidation measures (Cummins, 2019). Once the pandemic is brought under control and economies have positive momentum, most governments in ESA will have to grapple with huge fiscal deficits and unsustainable debt, which could further affect the already meagre investments in ECD services.

4.3 Key takeaways

- The funding gap for governments in ESA to provide basic ECD services to all children is massive, especially in LICs. If the gap is to be closed, governments in LICs would have to mobilize an equivalent of almost four times their ECD expenditures in 2019.
- Unless there are massive external injections of funding alongside a radical shift in spending priorities, this goal will be impossible to achieve. The international financial institutions, especially the IMF and the World Bank, are called upon to increase grants and concessional finance support to governments in ESA.
- COVID-19 has deteriorated public finances for ECD, and there is a risk of further cuts during the imminent period of austerity. The challenge for UNICEF country offices and development partners is to both protect ECD from fiscal consolidation measures and make the case for ECD to be a central component of recovery and national development plans.

Chapter 5. Conclusions and Recommendations

Using the Heckman curve as a conceptual framework, this paper analyzed spending on ECD (proxied by health and education) for children in ESA between 0-6 years old during 2002-19. It also estimated the funding gap in 2019 based on international spending targets and projected government spending on ECD in 2020 and 2021 in light of the ongoing pandemic.

The main conclusion is that government spending on ECD contradicts the Heckman curve with older children receiving far high levels of investments than young children. In 2019, governments and development partners in ESA spent an estimated US\$542 per person between 18-22 years, US\$411 for those aged 7-17, US\$207 for the 0-2, and only US\$88 for children between 3-6 years, on average. There is, therefore, a real risk that most ESA countries will fail to reap the social and economic benefits of investing in early years and ultimately to achieve SDGs.

The total ECD spending is dominated by health-related expenditures such as immunization, reproductive health, and post-natal care services. Investment in early childhood education is three times lower than health spending. In 2019, ESA governments and development partners spend an estimated US\$23 on early childhood education for children (3-6 years), compared to US\$71 for the same age group on health services on average.

Prior to the pandemic, ECD funding gaps were astronomical. The total funding gap for ECD-focused health and education services exceeded 90 percent, on average, and this is despite an upward trajectory in investments since 2002. Nearly all ESA countries were failing to meet the Incheon and Chatham House targets to allocate at least five percent of their GDPs on health and 4-6 percent on education. If they had met these targets, ESA countries would have spent approximately \$16.1 billion for ECD, yet an estimated US\$8.4 billion was spent on health and education combined for children between 0-6 years.

A key finding from the study is the low priority afforded to ECD services. In 2019, only around two percent of education budgets in ESA were focused on early childhood education. This is nearly four-fifths lower than the international benchmark for governments to allocate at least 10 percent of their education budgets to early childhood education (UNICEF, 2017; Zubairi and Rose, 2016). This is regrettable considering that early childhood is the most crucial period for children's holistic development. Missing the opportunity to invest early on in life results in a huge loss in human capital.

COVID-19 has worsened the public finance situation of ESA countries with knock-on effects on ECD expenditures. Government spending on ECD is expected to fall from an estimated US\$138 per person in 2019 to US\$122 in 2020 before a modest uptick to US\$126 in 2021. As a percentage of GDP, ECD spending will marginally fall from 2.4 percent in 2019 to 2.3 percent in 2020 and is expected to level off for the next few years, assuming the expected economic rebound will take place. Unless ESA governments take measures to defend further cuts of social expenditures in the looming era of fiscal consolidation, ECD spending is likely to deteriorate even more.

The analysis also revealed pertinent public financial management issues with a bearing on ECD financing. Firstly, data inadequacies continue to hamper more effective planning and budgeting for ECD as well as analytical understanding of spending challenges and solutions.

It was hard to find latest and comprehensive data for most ESA countries on how much they are spending on ECD. If ever data was available, it was outdated with lots of gaps; forcing the authors to use various interpolation methods to gap-fill. Also, data on critical ECD indicators was patchy.

Second, except for pre-primary education, ECD in its holistic form, does not usually have a separate budget line in government budgets. In most countries, ECD expenditures are lumped with other programs especially health, social protection, safety and security. While this reflects the cross-sectoral and multidimensional nature of ECD, the downside is that it makes it difficult to estimate the size of government spending on ECD.

Third, there is a big budget transparency issue; most governments do not publish their expenditure reports to enable tracking of spending across several sectors and programs. Without access to budget and expenditure information, it is difficult for researchers to measure and monitor spending on ECD. Lastly, due to paucity of data, ECD-focused financial diagnostics like Public Expenditure Reviews (PERs) or Public Expenditure Tracking Surveys (PETS) are few and far between. There is, therefore, a huge gap in knowledge on how well are ECD resources spent in each country, and whether public financial management goals of efficiency, equity, effectiveness and sustainability are being achieved.

5.2 Recommendations to governments

- Reorient fiscal policy and budgeting practices to be age-sensitive in order to maximize investments in the early years of life and better achieve national development priorities.
- Progressively increase the size of ECD spending to meet international targets, starting by allocating 10 percent of education sector resources to pre-primary education.
- Pay attention to investments in early learning, safety, security and care needs of children between 3-6 years which are the most neglected.
- Proactively open discussions with public and private, bilateral, and multilateral donors so they prioritize ECD in their financing packages to individual countries, noting that ODA flows to ECD services are much lower than flows to services that focus on other age groups.
- Make ECD a key component of COVID-19 emergency and recovery plans, ensuring it is mainstreamed in critical areas such as child protection, education, health, nutrition and social protection. Spending on ECD services should also be safeguarded under all circumstances and not be scaled back during the upcoming wave of fiscal consolidation.
- Reform budget templates, budget classification systems and charts of accounts to enhance the identifiability of ECD in budget processes and make information on ECD resource flows and expenditures publicly available.

5.3 Recommendations to UNICEF and development partners

- Assist governments to mobilize more official development assistance to various components of the nurturing care framework to ensure the holistic development of children early on in life in all contexts, including during emergencies.
- Provide technical assistance to finance and social sector ministries to strengthen budget templates, budget classification systems and financial reporting systems to improve the visibility of ECD expenditures in budget documents and global public finance statistics.
- Support targeted financial diagnostics with government counterparts to identify and address inadequacies, inefficiencies and ineffectiveness in budgeting and spending processes that impact ECD services.

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