



ECONOMIC AND SOCIAL BENEFITS OF INVESTING IN EARLY CHILDHOOD EDUCATION IN SOUTH AFRICA



“ Start at birth, coordinate services into comprehensive early childhood programs and achieve greater economic and social gains. (Heckman 2016)

01 OVERVIEW

It is generally accepted that providing access to quality early childhood care and education (ECCE) is one of the best investments any country can make into its human capital development. The benefits to society can be measured in educational, economic, and social terms. In educational terms, benefits can be quantified in the short- and medium-term as educational outcomes. Labour market returns are long-term and enduring and have potentially generational benefits. For this reason, it is important to know what the benefits are of any investment in early childhood development (ECD). Much work has been done in the past to determine the contribution of basic and tertiary education to the labour economy. The same understanding does not yet exist for ECCE in South Africa. This paper aims to contribute to the debate.

02 INTRODUCTION

Any discussion about the benefits of ECD must remember the first principle of ECCE: When education focuses on children’s comprehensive development, academic success and the welfare of students will follow powerfully together. A secondary principle: Receiving quality early care and education will fundamentally increase social mobility and later life prospects in the labour market. It is also one of the most powerful ways of changing the trajectory of generational wealth creation and transfer.

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In his seminal research titled “The Lifecycle Benefits of an Influential Early Childhood Program”, James Heckman shows that the returns for every \$1 invested in high-quality birth-to-five ECD programmes deliver on average a 13% return on investment. Heckman’s team also found that “significant gains are realized through better outcomes in education, health, social behaviours and employment” (2016²). His work is regarded as the lodestar for anyone wishing to understand the long-term benefits of investing in ECD but has not been fully replicated in South Africa.

Local research interrogated the impact that the introduction of Grade R had on early learning outcomes (Gr1-6)³. It highlighted the variable nature of the impacts due to the variable quality of ECD. The benefits of early learning interventions were not as strong as those found by Heckman. Reasons for this vary from the quality of interventions, loss of learning if not sustained over later educational phases, or that differences (gains) may be reduced when other children catch up in school. This requires a better understanding of the long-term benefits across a wide variety of outcomes.

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Labour market economists also focus on the contribution of educational attainment upon entering the labour market to employment probabilities and subsequent earnings. They argue that the benefits of education can be detected in the labour market, as the better educated has a higher chance of finding employment, are generally more productive, and therefore have higher earnings. Most of this work has focused on primary, secondary, and particularly tertiary education.

Heckman’s research uses a Lifecycle Benefits model to analyse a wide variety of life outcomes, such as health, the quality of life, participation in crime, labour income, IQ, schooling, and increases in mothers’ labour income because of subsidised childcare.

Not enough is known about the effect of ECCE on labour market prospects. A better understanding of the impact that ECD has on learning trajectories and how that translates into labour market prospects are important. Not only is South Africa about to embark on a new phase in ECD, with the transfer of ECD to the Department of Basic Education, but important related research has been completed in the most recent past, which makes this very possible⁴. The paper aims to contribute to this body of work.

2 García, Jorge Luis, James J. Heckman, Duncan Ermini Leaf, and María José Prados. “The Life-cycle Benefits of an Influential Early Childhood Program.” (2016)

3 Servaas van der Berg, Elizabeth Girdwood, Debra Shepherd, Chris van Wyk, John Kruger, Janeli Viljoen, Olivia Ezeobi & Poppie Ntaka. The impact of the introduction of Grade R on learning outcomes. (2013)

4 Recent studies by amongst others Wills & Kikal-Mistry (2021) Van der Berg (2014, 21, 22), Moses (2021), Giese, et.al. (2022), Hall, et.al. (2019), Ilifa Labantwana (2014) provide important building blocks to the foreseen research.

03 BENEFITS OF INVESTING IN ECD

There is broad agreement on the importance of the early years of a child's life for physical, social, emotional, and cognitive development. These benefits along multiple dimensions also help close the gap between children from rich and poor households. The gains by society from such investment seem to be large, multi-faceted, and enduring.

Using South African data, Wills and Kika-Mistry⁵ confirm that future life trajectories for children who access early childhood care and education (ECCE) programmes that contribute positively to their cognitive, linguistic, and socio-emotional development are much better compared to those who don't.

Benefits to children

Researchers outline three main theories why early childhood is the best time to invest in human capital formation. **First**, investments made when children are very young will generate returns that accrue over an individual's entire life. Investment in ECCE earlier in life, over a long time, are more likely to provide significant and lasting benefit to both the child and his/ her community.⁶

A **second** reason why early childhood investments benefit children's development more may be that the flexibility and capacity for changes in cognitive functioning and brain development is the greatest in young children, and these changes can have lasting effects on behaviour throughout life⁷. Knudsen and his team have worked at the intersection of economics, neuroscience, and child development. Their research shows that characteristics such as IQ, often thought to be hereditary, can be influenced by environmental factors in early life. Under this model, earlier investments generate benefits over a long time and early investment produces greater impacts since children's brains are more malleable and develop most rapidly at a younger age.

Thirdly, early investments can have larger impacts if early skills serve as a multiplier, or complement, later skills. Learning often requires scaffolding or the establishment of foundational skills first. Without such skills, later learning is significantly reduced or even impossible. Skills acquired in primary school depend on the skills attained earlier and mastery in adolescence depends on being able to call on these elementary skills. Under this "skill begets skill" model, early investments in child development can enhance the productivity of future investments in human capital.

Since early education develop foundational skills so complementing later skills, children need to have access to high-quality education at all ages to maximise the benefits of early education. A continuum of high-quality education in early life and thereafter ensures that early investments realise the educational and social returns in later life.

5 Gabrielle Wills and Jesal Kika-Mistry. New foundations: Strengthening ECCE provisioning in South Africa after COVID-19 (2021)

6 Executive Office of the President of the United States of America. The economics of early childhood investments. 2015.

7 Eric, I. Knudsen, James, J. Heckman, Judy, L. Cameron, and Jack, P. Shonkoff. Economic, neurobiological, and behavioral perspectives on building America's future workforce (2006)





Benefits to parents

Parents who have childcare options are better able to look for and upon finding employment, work better and possibly more hours. This can help parents increase their rate of employment and earnings. In the short term, this may provide additional income for their families, ultimately benefitting the children. In the longer run, this increased attachment to the labour force and increased work experience translate into long-term earnings benefits for parents whose children attend ECD.

Many studies show that providing better access to and lowering the cost of high-quality childcare can significantly increase mothers' employment rates and incomes, and this increase in family income can in turn improve children's general development outcomes.



Benefits to society

In addition to directly benefiting children and families, the benefits of early education extend to society. These spill-over benefits, what economists call positive externalities, include reductions in crime, and lower expenditures on health care and remedial education. By improving cognitive and socio-emotional development, investments in ECD may reduce involvement with the criminal justice system.

Similarly, such benefits may also reduce stunting and the need for special and remedial education, thereby lowering public school expenditures. These health improvements benefit not only recipients but also society, through lower expenditures on health care and health insurance.

Labour market benefits

Apart from the short- and medium-term benefits for schooling and learning, ECD also offers a cost-effective mechanism for producing a capable workforce through improved human capital formulation. Investment in education (including ECD) can lead to a better educated and well-trained workforce that can drive economic growth, and national competitiveness, reduce poverty and provide a powerful way to improve social mobility.



This human capital building process endures throughout the productive adult work life. Employed and well-remunerated workers are less reliant on government social support as more people can provide for themselves and their families.

THE IMPORTANCE OF EDUCATION IN HUMAN CAPITAL FORMATION

Education systems today represent the single most important driver of economic prosperity. Education increasingly shapes our world by developing the knowledge, skills, attitudes, and values on which societies rely. It could also forge social cohesion and prepare people to become and remain competent workers and active citizens, education shape our world.⁸ In particular, the expansion of access to education and the increased supply of skilled workers has enabled the transition toward innovation-oriented knowledge societies.

The acronym VUCA – volatility, uncertainty, complexity, ambiguity – suggests that we live in a time and a world where the future is intrinsically indeterminate. There is a growing disconnect between the infinite growth imperative and the finite resources of our planet; between the financial economy and the real economy; between the wealthy and the poor; between the concept of gross domestic product and the well-being of people; between technology and social needs; and between governance and the perceived voicelessness of people.

To educators and education policymakers, this is a troubling message. How can they educate children for jobs that have not yet been created, use technologies that have not yet been invented, or solve social problems we cannot yet imagine? The immediate future at the same time looks grim and full of promise. But it is increasingly accepted that we are not helpless victims of inevitable change or powerless spectators, society can and must participate in shaping the future.

Education is not only about the transfer of knowledge but about helping young people develop a reliable compass to confidently navigate through an increasingly complex, volatile, and uncertain world. Education must also build curiosity – opening minds; compassion – opening hearts, and courage – mobilising our cognitive, social, and emotional resources to develop the agency necessary for a more just and sustainable future⁹.

POST-APARTHEID EDUCATION AND LABOUR MARKET PROSPECTS

The post-apartheid era has made significant strides in providing virtually universal access to education, with the percentage of children benefitting from education programmes at age 5 increasing from 30.3% in 2002 to 85.3% in 2013. However, the variance found in ECD studies is similar to those found at higher phases. Whilst those fortunate enough to gain access to quality education are almost guaranteed success, most learners are still subject to low-quality teaching resulting in high rates of repetition and dropout and poor academic performance. Not enough is currently known about the effect on aspects such as socio-emotional wellbeing and development of higher order skills.

8 OECD. Building the future of education. 2021

9 Veronica B. Mansilla, Andreas Schleicher. Big Picture Thinking: how to educate the whole person for an interconnected world. 2021



Objectively all race-based labour market laws were removed after 1994 and even reversed through policies such as Affirmative Action and BBBEE. This should have led to significant changes in previously racing determining labour market success. Subjectively, however, due to the extremely poor quality of education, most black youths stand no better chance of finding employment than those older citizens who were legally excluded under apartheid.

06 SOME REMARKS ABOUT ECD IN SOUTH AFRICA

Over the past few years, ECD has received increasing attention from researchers, policymakers, and practitioners. Much more is now known about the quality of early childhood development largely due to the development and use of the Early Learning Outcomes Measure (ELOM)¹⁰.

The most recent release of the *Thrive-by-5* report paints a bleak picture of Early Learning Programmes (ELP).¹¹ Access to ELP in South Africa is acceptable with 72% of children aged 4–5 attending some form of ELP. The Thrive-by-5 Index developed using ELOM finds that a staggering 65% of children attending ELP are not on track for cognitive, and/or physical development, and insufficient socio-emotional development happens. These children fail to thrive as they are not developing according to accepted age-appropriate criteria.

Van der Berg¹² points out that there is increasing agreement about the importance of intervening to improve early development paths but that there is less agreement about the most effective and efficient ways to do so. He also points out that:



family wealth matters for young children,



it is possible to intervene effectively and improve the trajectories of young children, and



the later the remediation, the less effective it is.

Most efforts to expand ECCE, currently focus on efforts to enable access to programmes, rather than on improving outcomes based on accepted measures and investigating the ability of various programmes to deliver those outcomes. This has to be rectified.

Most recent research also confirmed that ECCE access and the quality of programming were directly related to both the ability to pay fees and fee amounts paid. Therefore, quality is firstly dependent on affordability and immediately disadvantages learners from poor households. Quality should be de-linked from levels of wealth.

On the positive side, the government's recent policy and financial reforms indicated a realisation of the importance of ECCE. Key policy documents such as the National Integrated Early Childhood Development Policy (2015) recognised ECD as a universal right, a national priority, and public good to which all children are entitled.

¹⁰ ELOM provides benchmarks for the performance of children in the age range 50 to 69 months.

¹¹ Giese S2, Dawes A3, Tredoux C4, Mattes F5, Bridgman G6, van der Berg S7, Schenk J8, and Kotzé J9 (2022) Thrive by Five Index Report, Innovation Edge, Cape Town. www.thrivebyfive.co.za

¹²

The release of the National Curriculum Framework for children from Birth to Four (DBE 2015) further pointed to the increased importance of ECCE as an integral part of child development and access to learning and moving ECD to DBE made this a reality.

South Africa needs to respond to the above by ensuring that early investment provides each child with an acceptable opportunity to quality ECCE so that they can thrive, have the opportunity for upward mobility and achieve acceptable levels of educational attainment.

07 DEVELOPING THE WORK ON CALCULATING THE RETURNS ON INVESTMENTS IN ECCE

As indicated earlier, it is important to determine how well the economic, educational, and social benefits from investment in ECD translate into the labour market. How well people do in the labour market is one of the most important measures of beneficial investment for individuals, families, and society at large. The most recent work in better understanding the current investments in ECD and the immediate developmental and educational outcomes from such investment prepares the ground for further and equally important work.

Some of the reasons for determining the return on investment include:



Knowing the relative value of public and private spending on ECCE



Better understanding the value of ECD investment for later learning



Determining the contribution that ECD makes to labour market attainment



Comparing different types of ECD relative to their labour market returns.

Girdwood¹³ sounds a warning: “science is unequivocal in its support for the importance of early childhood development. Calls for increased investment in young children cite neuroscience, developmental psychology, and health. It is hazardous, however, to make a direct leap from neuroscience to policy recommendations. Simply because early childhood provides opportunities for more economically efficient interventions which have a dramatic impact on inequality, this does not mean that the ECD policies actually implemented by communities, provinces, or national government are worthy investments.” This underscores the need to understand what benefits accrue from ECD and at what cost.

A first important step in determining long-term benefits is to better understand early learning by measuring the effect of ECCE on learning. This first and necessary step then needs to be followed by similar measurements across the educational cycle. It thereafter needs to be linked to labour market attainment by tracking individuals across these different cycle phases.

13 Elizabeth Girdwood. A pre-R year: is it worth it, and what would it cost? An applied policy analysis/critique focused on the practical, financial, and policy implications of increasing support to the Pre-R year in South Africa. 2012



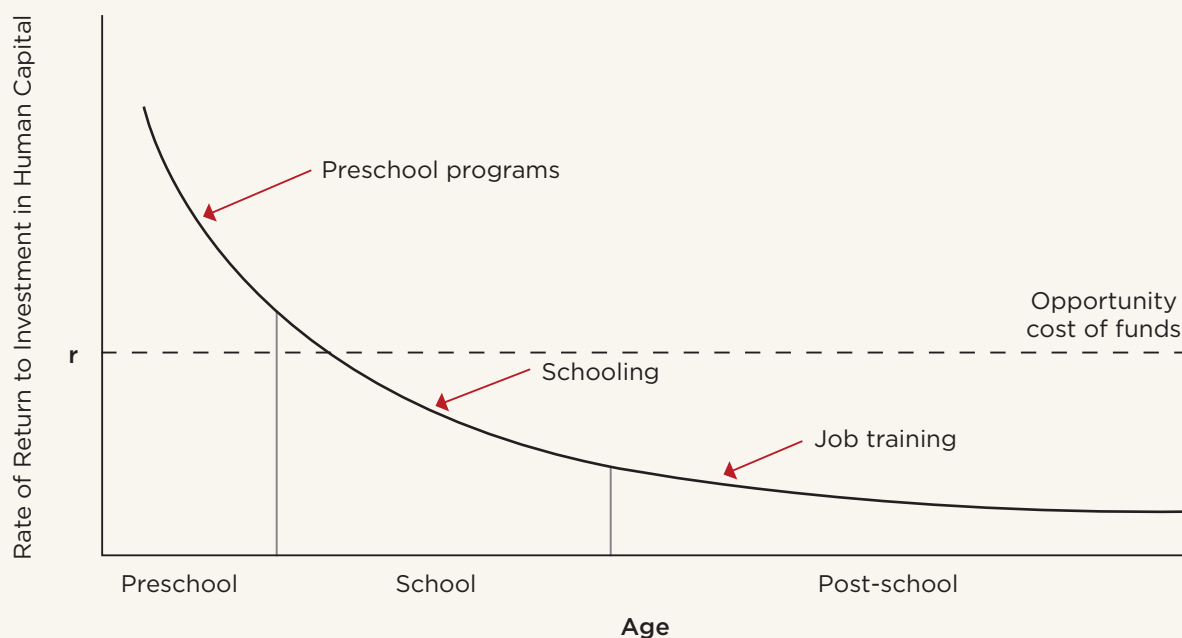
A key challenge at present is the absence of data that could be used to replicate the work by Heckman. However, progress in collecting data on ECD through surveys such as the *Thrive-by-5* and the ECD EMIS census already provides significantly more and improved data for future work.

Politically it may also be difficult to sustain (increased) investment in ECD without the necessary evidence and producing evidence to support increasing investment will be important. This more than justify the effort required to embark on this challenging but ultimately rewarding journey.

08 CONCLUSION

The early years are the most cost-effective period in the child's life in which to invest. As argued earlier, access to quality education and care in the early years of a child's life influence the child's productivity and learning ability throughout life.

For this reason, it is extremely important for children, parents, government, and civil society to know whether the investment in ECD provides sufficient individual and societal returns throughout the education journey and into the labour market. Understanding the economic, social, and labour market benefits from investment in early childhood care and education will contribute to a society where children's comprehensive development will allow them to thrive. This will allow them to powerfully succeed academically, become shapers of their future and active citizens co-creating a more prosperous and sustainable future.



Rates of return to Investment in human capital as function of age wgeb the investment was initiated. The data were derived from a life cycle model of dynamic human capital accumulation with multiple periods and credit constraints. Investments were initially set to be equal across all ages. r represents the cost of the funds. Data are from Cunha et al. (19).

From Knudsen, et. al. Economic, neurobiological, and behavioral perspectives on building America's future workforce. 2006