



Access to Higher Education in Sub-Saharan Africa: A Life-Cycle Analysis and Determinants in Ethiopia

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Abstract

This paper examines the determinants of higher education enrolment in Ethiopia using a unique longitudinal data that follows the lives of young people over a period of 14 years (from age 8 to age 22). The study employed a stepwise estimation strategy and assessed the role of early childhood accumulation of human capital and selection on individual-specific unobservable characteristics through lagged achievement (i.e., test scores at age 12). Results from the estimation indicate substantial inequalities in access to higher education arising from location, household wealth, prior academic performance, and gender. We also find that an academically strong but poor individual at the age of 12 is less likely to access higher education between ages 19 and 22 compared to an academically weak but rich individual at the age of 12. This finding is not likely a case of the poor being rationed out by price since academic performance in entrance exam is the primary filter mechanism that determine who gains access to higher education in Ethiopia. What seems more likely is that individuals are rationed out by not having the resources to continuously invest in tutoring and study to do well in entrance examinations. Therefore, early intervention that provide direct financial support to academically sound but poor children could significantly increase higher education enrolment in the future.

Keywords Human capital · Higher education · Life cycle · Ethiopia · PPVT · Maths

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Introduction

Education is generally seen as an important instrument for promoting economic growth and development. Education is particularly important for the Sub-Saharan Africa region, where growth and development are essential if the region is to overcome the many challenges facing it (Osei-Kusi, et. al., 2024). For many years, development agencies and other relevant stakeholders have promoted primary education and, more recently, secondary education, as means of improving economic growth and mitigating poverty in Sub-Saharan Africa. As a result, the discussions about access to education were mostly focused on primary and secondary education. For example, the Education for All Summit held in Dakar in 2002 promoted only primary education as a driver of broad social welfare, leaving secondary and tertiary education in the background (Bloom et. al., 2014).

In recent decades, however, education, particularly higher education, has come to be understood not merely as a social service but as a strategic asset that underpins a nation's transition toward a knowledge-based economy. Knowledge creation, diffusion, and application are now widely acknowledged as central drivers of economic productivity, innovation, and competitiveness. As global production systems shift toward knowledge-intensive industries, countries with strong and inclusive higher education systems are better positioned to develop the human capital required for technological adaptation, digital transformation, and sustained economic growth.

Currently, Sub-Saharan Africa has the lowest enrolment rates for higher education as well as the lowest tertiary gross enrolment ratio in the world (World Bank, 2020). A major reason for relegating higher education to the background in development initiatives was the paucity of empirical evidence that it enhances economic growth and development (Baafi & Asiedu, 2025). However, substantial empirical evidence now exists in the literature that shows that higher education is a determinant of income, can produce both private and societal benefits, facilitates economic growth, and improves technological catch-up (Bloom et. al., 2014; Seetanah & Teeroovengadum, 2019). There is also now a general recognition that higher education is a key driver of economic competitiveness in an increasingly knowledge-driven global economy, which has made higher education more important than ever before in a developing region like Sub-Saharan Africa (Brotherhood, Yang, & Chankseliani, 2020).

Within this broader knowledge-economy framework, higher education institutions are key actors in national innovation systems. They cultivate advanced skills, generate scientific knowledge, and serve as hubs for research and development (R&D). They produce graduates capable of engaging with emerging technologies, adapting global innovations to local contexts, and driving technological progress within domestic industries. They also enhance a country's scientific output and facilitate participation in global knowledge networks—an increasingly important factor in economic integration, global value chains, and digital competitiveness.

In this study, our primary aim is to analyse the determinants of access to higher education from a life-cycle perspective in Sub-Saharan Africa, using Ethiopia as a case study. Although more recent evidence on the benefits of higher education has led to an acknowledgment of the importance of higher education in the region, little or nothing is known about the life-cycle determinants of access to higher education