

Credit constraints in higher education attendance: Longitudinal evidence from Ethiopia

Godstime O. Eigbiremolen | Anthony Orji 

Department of Economics, University of Nigeria, Nsukka, Nigeria

Correspondence

Anthony Orji

Email: anthony.orji@unn.edu.ng

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Abstract

In this paper, we examine the relationship between household wealth and higher education enrolment, with a focus on the evidence surrounding credit constraints in postsecondary education. Using unique longitudinal data that link household wealth and measures of cognitive ability at age 12 to higher education attendance at age 19–22, we differentiate short-term credit constraints from long-term credit constraints and test the relative importance of short- and long-term credit constraints in schooling decisions. We find that short- and long-term credit constraints determine the relationship between household wealth and higher education attendance. There is a need to complement short-term policies with long-term interventions that empower households to continue to invest in human capital development over the child's life cycle, which will crystallize in higher cognitive ability and readiness for higher education.

KEYWORDS

cognitive ability, higher education, household wealth, long-term constraint, short-term constraints, test scores

1 | INTRODUCTION

Attending higher education is a marker of better outcomes for individuals and societies. Higher education is a determinant of income, can produce both private and societal benefits, facilitates economic growth and improves technological catch-up (Aromolaran, 2004; Asemu et al., 2024; Berthélemy, 2011; Bloom et al., 2007, 2014; Gyimah-Brempong, 2011; Gyimah-Brempong et al., 2006; Kocsis & Molnár, 2024; Kwenda & Ntuli, 2014; Seetanah & Teeroovengadum, 2019; Shimeles & Verdier-Chouchane, 2016). Chetty et al. (2020) showed that higher education institutions in the United States are heavily segregated by income. Similarly, children from low-wealth backgrounds in low- and middle-income countries (LMICs) are more likely to drop out of school and less likely to attend higher education (World Bank, 2018).

Carneiro and Heckman (2002) noted that the positive correlation between household wealth and higher education enrolment could mean either of two related things or both. The first and obvious interpretation is that of short-term credit constraints—credit constraints faced by households in a child's early adolescent years affect the households' ability to finance higher education. The second and less obvious interpretation is that of long-term credit constraints—household wealth is strongly correlated throughout a child's life cycle. Thus, households with high wealth in the early adolescent years of a child are more likely to have high wealth throughout the child's time at home. This implies the availability of resources to provide high-quality education throughout a child's formative years, which will in turn yield higher ability and readiness for higher education. Establishing the relative importance of short-term versus long-term

constraints in explaining the gaps in higher education enrolment is essential for effective policy intervention. This evidence will ensure that policymakers apply the right mix of interventions to support access to higher education.

Answering this question requires high-quality longitudinal data that will allow researchers to link measures of cognitive ability (mostly test scores) and family wealth in the early years of life to higher education attendance later in life. Such unique data are still quite scarce in LMICs. The scarcity of high-quality longitudinal data in LMICs is what has held researchers back from investigating this important question. This paper aims to address this gap by directly testing the relative importance of short-term credit constraints versus long-term credit constraints in higher education attendance gaps using unique longitudinal data that link household wealth and test scores at age 12 to higher education attendance for 19–22-year-old Ethiopians. The rest of the paper is organized as follows: Section 2 discusses higher education in Ethiopia, empirical literature is presented in Section 3, data and descriptive statistics are provided in Section 4, empirical specification is discussed in Section 5 and Section 6 provides conclusions and policy discussions.

2 | LITERATURE REVIEW

2.1 | Theoretical literature

The theoretical underpinning of our study is based on Human Capital Theory (HCT) and Education Consumption Theory. HCT holds that formal education is highly instrumental and important in improving a population's productive capacity. Education is one of the most effective means of improving people's lives in the country. People can learn what they are intended to accomplish and how to do it correctly through education. Education is the only accepted formal method of improving a country's population's knowledge, effective communication and upgrading. Formal education is viewed as an investment in human capital (Woodhall, 1987).

HCT has been criticized mainly for seeing education as an investment and not taking some aspects of education consumption motives, access, or utility into consideration (Blaug, 1976). It may be erroneous to measure all the benefits accruable from investments in human capital by viewing human capital exclusively as a capital good and by assuming that it creates only a flow of monetary returns. Accessibility and consumption benefits should also be included for certain forms of human capital, such as education.

The education consumption model differs from the monetary dimension by also looking at the determinants of access to education and contribution of education to human usefulness. In view of this, higher education can be viewed both as a consumption good for which the individual is willing to access and pay for and as an investment good that yields higher wages later in life. Thus, the determinants of the individual's educational access and choice can be divided into three groups: preferences, returns and costs.

The costs of attending higher education are time, effort and money. This could be monetary expenses incurred because of direct and foregone labour income. Furthermore, as higher education improves the skill and productivity level of an individual, he is paid a higher wage in the labour market. Thus, the return to higher education comes both as pecuniary and nonpecuniary returns. In their paper, Campbell and Siegel (1967) estimated an education demand consumption model and Michael (1973) and Becker (1964) included the education consumption motive in a domestic production model. Heckman (1976) also included the consumption motive if education enhances the efficiency of allocating nonpecuniary resources like leisure.

In these models, both the monetary and the nonmonetary aspects together determine the optimum quantity of education. These theories are relevant to this study because they highlight the critical importance of education for human growth by arguing that education generates positive externalities that are dependent on access to education and the quality of education, among other factors. Many of the classical economists argued strongly for the government's active support of education on the grounds of the positive externalities that society would gain from a more educated labour force and populace. Therefore, in this context, the model considers the impact of education access on human development when estimating the factors that influence enrolment in higher education.

2.2 | Empirical literature

It is evident in the literature that test scores, which are measures of cognitive ability, particularly, for the early stage of life, are strong predictors of higher education and income of households (Lopez et al., 2024; Molina et al., 2024). For