



# World education finance policies and higher education access: A statistical analysis of World Development Indicators for 86 countries

Lijing Yang<sup>a,\*</sup>, Brian McCall<sup>b</sup>

<sup>a</sup> University of Georgia, Institute of Higher Education, Rm 014A, Meigs Hall, 106 Herty Dr Athens, GA 30602, United States

<sup>b</sup> University of Michigan, Center for the Study of Higher and Postsecondary Education, Rm 2108B, 610 E University Ave., Ann Arbor, MI 48109, United States

## ARTICLE INFO

### Keywords:

Education finance policy  
Higher education access  
World Development Indicators  
Panel data models  
Privatization and cost-sharing  
Tertiary expenditure per student

## ABSTRACT

This study uses panel data models to analyze international indicators and examines the relationship between education finance policies and higher education access among 86 countries from 1998 to 2009. We find that public expenditure per tertiary student bears a negative association with tertiary enrollment ratios, whereas GDP per capita and public spending on education as a percentage of GDP both have a positive effect on tertiary enrollment. These results imply that for a fixed amount of total budget and rising demands for higher education, various nations have reduced spending per college student and drawn on more private resources to expand higher education access.

© 2012 Elsevier Ltd. All rights reserved.

## 1. Introduction

Over the last decade, higher education around the world has generally expanded from serving the elite (under 15% of the college age group participating in postsecondary education) to the masses (20–30%).<sup>1</sup> This expansion occurred not only because of growing individual demand but also because of national goals to achieve social justice and enhance competitiveness in a global economy (Johnstone, 2004a). Along with the expansion, a key issue now, however, is how to fund access to higher education in light of diminishing public resources (Chapman and Greenaway, 2003), as governments no longer can afford to subsidize mass higher education and the traditional approach of low or free tuition has come to be considered a regressive use of taxpayers' resources (Barr, 2005; Chapman, 1997; Johnstone, 2004a). Since the 1990s, many countries in the world have shaped their education finance policies to maximize the utilization of scarce resources to provide access to higher education.

Given the huge investment in higher education and the tension between growing demand and stagnant or declining public support, it is reasonable to ask: Have the recent education finance policies across nations—represented mainly by public/government resources devoted to education—promoted access to higher education, controlling for the role of economic development? And, does the effect of education finance policies on higher

education access vary between developed and less developed countries? None of the existing literature has addressed either question. Therefore, this article employs panel data methods to investigate the relationship between public finance on education and college access among developed, developing and the least developed countries. The empirical findings of this study have important implications for those government agencies involved in higher education policy.

## 2. Literature review on theories and world-wide policy practices

### 2.1. Theoretical frameworks

In this section, the theories on basic education expansion and the theoretical literature that rationalize government or public spending on higher education are examined.

#### 2.1.1. Theories on expanding access to basic education

Theories on expanding access to basic education across nations from multi-perspectives—economic, sociological, political and religious—have been well developed and can provide valuable insights into worldwide higher education expansion, the latter of which has been less studied. First, the economic perspective stated that mass schooling is a consequence of the increased demands from workers to obtain new skills and knowledge to build local, regional, or national economies (Clark, 1961; Harbison and Myers, 1964). Second, the functional theory suggested that the expansion of schooling is a solution to solve problems of social stratification through integration or to reproduce the dominance of elites through competition (Bourdieu and Passeron, 1977; Bowles and

\* Corresponding author. Tel.: +1 706 583 8244.

E-mail address: [lijyang@uga.edu](mailto:lijyang@uga.edu) (L. Yang).

<sup>1</sup> The cut-off points of elite and mass higher education were defined by Trow (1972, 1973), and these cut-off points are still widely used in more recent literature.

Gintis, 1976; Carnoy, 1982; Katz, 1975). Third, the political theories discussed how national political structures transformed class interests into policies that are more or less favorable to educational expansion (Archer, 1979; Rubinson, 1987) and how the intensification of nationhood resulted in the sponsorship, funding and expansion of mass education as states compete in an increasingly integrated world (Benavot and Riddle, 1988; Boli et al., 1985; Ramirez and Boli, 1987). Additionally, Boli et al. (1985) introduced a religious perspective and saw mass education as one of the results of secularization movements in the modern states and the new religious outlook that encompasses the nature of God and moral action.

Largely based on the above political theories, Meyer et al. (1992) completed one of the earliest statistical studies on basic education expansion across nations. Drawing data on enrollment ratios of 120 countries from UNESCO from 1870 to 1980 and employing a pooled panel regression and an event history method, they found the formation of unified sovereignty and the intensification of the internal principles of nationhood have only modest effects on mass education and on the acceleration of education expansion after World War II.

While the earlier studies on basic education expansion shed important insights into higher education in terms of the multi-perspective theories and measurements of education expansion (i.e., enrollment ratios) as well as the analytical methods (e.g., event history models, pooled panel regression), they have limitations when applying to higher education. First, basic education expansion theories that were developed two or three decades ago have only limited implications for higher education research in the most recent decades. Second, the basic education theories apparently downplayed the economic role largely due to the fact that industrialization is found to be poorly related to the growth of mass education in cross-national studies (Meyer et al., 1992). However, the economic environment (e.g., the burgeoning international trade) has changed dramatically in the recent decades and the economic influence can never be overstated.

### 2.1.2. An economic perspective on public financing of higher education access

Many economic studies have reported a generally positive correlation between education and economic growth in the recent decades (e.g., Bils and Klenow, 2000; Friedman, 2005; Patrinos, 2000; Temple, 2000). These studies have given great importance to government and private spending on education as an investment in human capital. According to Becker (1975), individual investment in human capital increases their marginal productivity and, hence, their wages. Human capital theorists also acknowledge that widespread private investment in schooling is associated with external benefits (i.e., externalities or spillover) in a society, such as improved productivity of workers, greater tendency to adopt advanced technologies, better involvement in democratic society, healthier life, higher rates of family savings, and reduced crime and the associated social disruption (Hall, 2006). The society-wide externalities associated with individual education have also served as the basic rationale for government investment in education. In addition to human capital theory, signaling theory also explains educational investment, but interprets individual investment in higher education as a signal to employers about job applicants' future productivity through one's completion of the rigorous college education (Connelly et al., 2011; Rosenbaum et al., 1990; Spence, 1973).<sup>2</sup>

<sup>2</sup> Wolpin (1977) has suggested that signaling is not useful to the self-employed. Based on Wolpin's suggestion, Arai (1989) used prefecture level data from Japan on self-employment income and college enrollment to test this hypothesis. While the WDI does have some limited data on self-employment levels, it is only available for developed countries. Thus we do not include these measures in our analysis.

Based largely on human capital theory, the new (endogenous) growth theory (opposite to neo-classical growth model or exogenous growth model<sup>3</sup>) mainly builds macroeconomic models out of microeconomic foundations (Parente, 2000). According to endogenous growth theory, technological change—improvements in the production function—lies at the heart of economic growth, and arises in large part because of intentional actions taken by people who respond to market incentives and translate new knowledge into goods with practical value (Lucas, 1988; Romer, 1990, 1994). Thus, long-run economic growth is not the result of exogenous technological changes or forces that impinge from outside, but an endogenous outcome driven largely by intentional decisions of human capital investment made by profit-maximizing agents.

One negative aspect of an early endogenous growth model is the suggestion that individuals in firms may under-invest in education, resulting in slower economic growth. Rustichini and Schmitz (1991) argued that, although individuals know that acquiring knowledge will raise their productivity in subsequent research, they tend to spend too little time acquiring knowledge since they do not fully capture the returns to the technological advances and social benefits that research may lead to. Thus, Research and Development (R&D) may be difficult to implement and monitor, resulting in a slower growth rate relative to the socially optimal level. This led Temple (2000) and Kopf (2007) to suggest that governments subsidize not only R&D but also certain kinds of education—particularly higher education—to foster technological change and advances in R&D.

The new growth theory suggests that, in searching for ways to spur economic growth, higher education finance policies are a potentially fruitful area to examine. Moreover, the new growth theory differentiates between nations producing more workers with tertiary education levels as a means of raising human-capital stock (or educational achievement of a nation) from improvements in basic education or literacy for all workers. Thus, the theory reveals the importance of government investment in higher education for sustained growth in a world of rapidly changing technology. It is not surprising that Chapman (2003), drawing on the new growth theory, concludes that “the role of higher education is complex with educational improvements seen to facilitate technological progress, which is the engine of economic growth” (p. 7). For many countries, particularly developing countries, this increasing faith in higher education as an agent of growth has led to heavy educational investment (Paulsen, 2001).

Although the new growth theory rationalizes public spending in higher education, it does not address whether the strategies or patterns of education finance affects social equity. Some of these issues are studied by Friedman (2005) who compared the case of the U.S. to other nations and recognized that because of great financial difficulties, young, low-income Americans may not attend any college without a scholarship. He warns that the financing mechanisms that adopt privatization strategies (e.g., charging tuition and using loans) pose a serious problem to overcoming disparities in family backgrounds and suggests that government intervention via investment in education is a potential means of overcoming income inequality associated with economic development.

<sup>3</sup> Neo-classical growth models exogenously determine the long-term rate of growth by either assuming a savings rate (the Solow model) or a rate of technical progress. However, this begs the question, as the savings rate and rate of technological progress remain unexplained. Endogenous growth theory was developed in the 1980s to overcome this shortcoming by building macroeconomic models on microeconomic foundations. For a detailed comparison of these two growth theories, please refer to Parente (2000).

Download English Version:

<https://daneshyari.com/en/article/356172>

Download Persian Version:

<https://daneshyari.com/article/356172>

[Daneshyari.com](https://daneshyari.com)