

## Chapter 18

# The Japanese Tertiary Education System and Its Impact on Economic Conditions from 2000 to 2010: Human Capital Formation

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### ABSTRACT

*Researchers have calculated the relationship between human capital development and economic output by various means of econometric modeling and by use of numerous indicators under the context of an assortment of human capital theory. In this chapter, new interpretations of the expansion of human capital in the form of tertiary education enrollment and the impacts of various economic conditions in Japan from 2000 to 2010 are identified. Data was collected from UNESCO UIS, OECD, and the World Bank on tertiary enrollments, tertiary expenditures, and other measures utilized during modeling. This chapter applied an OLS non-linear regression in efforts to estimate optimization of tertiary education enrollment to maximize the real growth rate in the Asian region, specifically through the use of point estimates for Japan. Government and educational policy recommendations were made based on computed outputs.*

### INTRODUCTION

Post World War II, governments have created, developed, financed, and supported education systems with political ministries, interest aggregation, and funding in an effort to create a knowledgeable society that can generate economic growth. The time, efforts, and funding spent on government

education budgets is consumed with thoughts that the participants will produce a greater return on initially invested funds and that society, as a whole, will prosper. “Human capital accumulation can be an engine of economic growth, and the government as significant roles in providing formal education” (Naito & Nishida, 2012, p. 2). Tertiary educational enrollment is considered a

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form of human capital accumulation towards economic growth and development and is of particular interest in this research.

Recently, education policy trends have weighted the calculation of this return more heavily and, year after year, governments seem to place more efforts and funding in education systems to help achieve these goals. The Organisation for Economic Co-operation and Development (OECD) report, *Education at a Glance 2013: OECD Indicators*, explained the necessity for governments to pay notice to international country and systems comparisons “as they search for effective policies that enhance individuals’ social and economic prospects” (p. 3) in relation to building more effective and efficient education systems and better utilizing resources to cover increasing demands. Woodhall (2007) affirmed that many economists have conducted research and developed models for submission to governmental education departments and ministries, as well as large international agencies, with the intention of creating and sculpting educational policy framework and offering calculated proposals for further changes. Further, researchers and major research institutions have collected enough data to evaluate whether this initial investment is valuable for different types of economies and are investigating which types of efforts are generating future economic growth. This research study served to observe Japan’s educational inputs and the relationship for generating outputs in the form of economic growth.

## **BACKGROUND**

Human capital, broadly, is the accumulation of knowledge and intelligence of an individual that is calculated by that individual’s ability to carry out labor in efforts to generate economic value (Becker, 1993). Just as physical capital can be calculated, human capital can be measured for the purpose of quantifying one’s ability to produce

labor by his or her knowledge capacity. Human capital theory proposes that the expansion of skills and knowledge creates a form of capital that is definable and valuable to society. Becker (1993) explained the phenomenal growth of the Asian nations, notably Japan, China, and Taiwan, which, while lacking natural resources, exuded an amazing potential through use of “a well-trained, educated, hard-working, and conscientious labor force” (p. 24). This cycle of events justifies the exploration of expanding higher education to strengthen knowledge capacity and economic productivity via the medium of human capital acquisition.

The researcher conducted this study to identify new insights into the development of human capital in the form of tertiary education enrollment and the analysis of tertiary level educational policy implementation in Japan from 2000 to 2010. This research tests if it is, in fact, that increased tertiary education enrollment surreptitiously effects the expansion of human capital to eventually create an increase in economic output, most commonly reported in terms of GDP or GDP per capita. A historical review of educational systems and policies and cultural educational norms aided in answering the question of how the Japanese economic conditions were impacted by its educational system and vice versa. The implications of this model are valuable to governments, researchers, economists, educators, and other organizations that collect data and provide programs to initiate change in education systems.

## **Japan**

### **Demographics**

Japan is located in Eastern Asia to the southwest of China and Korea, situating it in a prime location for trade and developing authority. Japan has matured into a world economic power through its growth in the manufacturing industry and its capacity to produce innovative products and in-

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