# of Education on Economic The Case of Malaysia

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Abstract

This paper studies the relationship between education and economic growth in Malaysia. We examine the relationship between educational variables and gross domestic product (GDP). This paper focuses on human capital as a one of determinant of economic growth. The problem statement of this study was that, does the education attainment of the population can help to increase the economic growth? Our main result suggest that there exists a co-integrating relationship between education as measured by enrollments rates in primary, secondary and higher education and the GDP per capita. Malaysian annual data were collected over twenty six-year period starting from 1980 up to 2005. The Methodology employed is the standard co-integration analysis.

Keywords: Education, Human Capital, Economic growth

Introduction/Background

Human capital via education plays an important role in the process of economic development because it is the key factor for increasing the long-term competitiveness of an economy. Higher education attainment means more skilled and productive workers. Thus, education promotes growth and development. Empirical tests of the hypothesis that education promotes growth are, however somewhat mixed. The research question is whether education has an impact on economic growth? The aim of this study is to examine the role of education in Malaysia economic development.

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3) in its influential East Asian Miracle report, the high Es), which include countries like Japan, Hong Kong, Korea, Singapore, Taiwan, China, Indonesia, Thailand and Malaysia as a grouping, was the fastest growth region in the world from the period 1965 to 1990. For that reason, it is important to develop an understanding of some of the key elements in their ability to sustain economic growth.

Malaysia's economic history can be divided into four distinct development phases, according to major shifts in government policy. They are: (1) market-led development with active government participation from 1957 to 1970, (2) New Economic Policy (NEP) and state intervention from 1971 to 1985, (3) economic liberalization and private sector-led growth from 1986 to 1996 and (4) Asian crisis, the global tech bust, capital controls and Sept 11 from 1997 to 2001. (Chew & Wong)

The central issue of this study was that increasing the educational attainment of the population can help to increase the economic growth. Argument put forward by Kim and Lau (1993) for the low TFP in Malaysia is due to relatively poor human resource endowment that prevented the effective absorption of advanced productive technologies and the full exploitation of backwardness. In other words, Malaysia invested heavily but did not have the human capital to use it efficiently.

The paper is organized as follows: Section 2 reviews past empirical work and relevant conceptual considerations. Section 3 describes our results based on time series data regressions. Section 4 contains concluding remarks.

Literature Review

The existing literature on the role of education on economic growth usually employs standard sources of growth equations based on a dynamic Cobb-Douglas aggregate production function, which can easily be extended to include human capital as a determinant of the economy's growth rate. Lucas (1988), Becker *et al*. (1990), Romer (1990a), Mulligan and Sala-i-Martin (1993), Caballe and Santos (1993) and Upadhay (1994), bring the role of human capital in the form of education levels. Empirical studies behind these models as Romer (1990b), Barro (1991), Kyriacou (1991), Nunes (1993), Barro and Lee (1993), Benhabib and Spiegel (1994), Villanueva (1994) use educational proxies for human capital.

Attempts to empirically test of the hypothesis that education plays an important role in promoting growth have given mixed results. Barro (1991) found that an additional year of average school enrollment in 1960 was associated with approximately 0.3% faster growth in per capita gross domestic product (GDP) over the period 1960-1990. However, Levine & Renelt (1992), found that in many of these regressions the education was not statistically significant. Recent studies by Benhabib & Spiegel (1994), Pritchett (1996), Bils & Klenow (1998), and Self & Grosskopf (2000) also do not find education to be significant factor in the growth equation. Most of the work cited above has been cross-

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enhabib and Spiegel (1994) is among the first to note n education and growth in the cross-country data.

In this paper, time series data for Malaysia will be utilized to determine to what extent education played an important role in economic growth. The main aim of this paper is to examine the linkages between education and economic growth based on ‑Pritchett Hypothesisø Pritchett(1999), claim that increases in measured educational attainment have done little to raise growth in less developed countries. Is it true that most developing countries have not benefited from increases in education attainment?

Research Methodology and Empirical Evidence

Annual data for the variables examined were obtained for the period 1980 through 2005, a time when Malaysia exhibited political and economic volatility. We have used GDP per capita as a proxy of economic development; while for human capital proxies, we have used enrollment rates in primary, secondary and tertiary. First, we performed the unit root tests for PRI, SEC, TER and GDP for Malaysia. In order to test for stationary we will use the augmented Dicky-Fuller (ADF) test (see Dickey & Fuller, 1971, 1981). The results in level and first differences are reported in Table 1. The results show that we could not reject the null hypothesis of unit roots for all variables in level forms. However, the null hypothesis was rejected when the ADF test was applied to the first differences of each variable. The first differences of PRI, SEC, TER and GDP are stationary indicating that these variables are in fact integrated of order one, $I(1)$. Since all variables are stationary after first differencing, it is appropriate to test whether the variables are co-integrated.

Table 1: Results of unit root tests

Variables	ADF test statistic for a unit root	
	Level	First Difference
PRI	-1.059754	-4.896601
SEC	-1.008861	-6.262665
TER	-0.303183	-4.698767
GDP	-0.139802	-4.276083

Note: *95% critical value for ADF statistic = 2.986
      **95% critical value for ADF statistic = 2.992

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st between education variables and GDP

Johansen's test statistics for co-integration

	PRI	SEC	TER
r = 0	33.35*	16.97*	27.78*

Note: *denotes significant at 95% critical value.

Table 2 gives the results of the co-integration tests with enrollments in various levels of education and GDP. The Johansen & Juselius method uses the trace statistics to determine the co-integrating vector r. For all cases, the trace tests indicate that there is one co-integrating vector. As you can see from the table, there are able to reject the null hypothesis that the co-integrating parameter is equal to zero, at the 5% level of significant.

Conclusion

The main objective of this paper is to examine empirically the relationship between education and economic growth. We find that GDP is co-integrated with all educational variables, indicating positive relationship. This type of study is relatively new in Malaysia. Hence, further studies are needed in this area. In the future, it is suggested that the researcher needs to consider to extending the time period such as using longer time period. For the improvement of the educational quality, the level and effectiveness of educational inputs should be increase. Malaysia government should focus on educational development especially the first two stages of education in order to achieve the highest possible enrollment rates and a rising educational level for its labor force. In other words, educational system must provide the education related to and needed by the labor market. In this context, educational system is being challenged to reconsider its fundamental objectives.

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