

The Return of Investment on Tertiary Education in Malaysia

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Abstract: This paper examines the rate of return on higher education to first degrees, master's degrees, and PhDs in Malaysia using previously published data. The purposes of this research are to study and identify whether or not there is a direct link between tertiary education and wages. Barbara Ischinger, Director for Education, points out "Education has always been a critical investment for the future, for individuals, for economies and for societies at large."¹ John F. Kennedy once said; "Let us think of education as the means of developing our greatest abilities, because in each of us there is a private hope and dream which, fulfilled, can be translated into benefit for everyone and greater strength for our nation."² A common belief existing in all societies suggests that tertiary education degree actually provides great pay-off to the beneficiary. According to the results of some recent surveys on this topic, students in general seem to agree with this common belief that they will have positive returns immediately after graduation.

Keywords: *Rate of return, tertiary education, wages, and Malaysia*

1. Introduction

The MOHE, the Ministry of Higher Education of Malaysia, has set as its mission the creation of a higher education environment that will foster the development of academic and institutional excellence both in public and private higher education institutions (HEIs). The MOHE is directly responsible for the performance and the direction of the public colleges and universities in its jurisdiction, but not for private HEIs, which are regularly monitored in terms of academic performance, rating, training, and audit related tasks. The MOHE has highlighted seven key areas to focus in its National Higher Education Strategic Plan 2007-2010: (1) Widening access and enhancing equity; (2) improving the quality of teaching and learning; (3) enhancing research and innovation; (4) strengthening institutions of higher education; (5) intensifying internationalization; (6) enculturation of lifelong learning; and (7) reinforcing the Higher Education Ministry's delivery system.³ Little more than half a century passed since the establishment of Malaysia's first university, university Malaya which was founded in 1961, now the country has more than one million students enrolled in the 20 public and 32 private universities, four campuses of well-known international universities, 21 polytechnics, 37 public community colleges, and close to 500 private colleges. The Malaysian government has certainly demonstrated its high level of commitment to tertiary education by enabling as many as 900 thousand students (from 1997 to 2006) to pursue their dreams of obtaining a degree from a higher education institution. The low-cost educational loans are provided by National Higher Education Fund Corporation (PTPTN).⁴ Robert B. Zoellick, President of the World Bank Group 2010, said: "Improved learning leads to better jobs, greater productivity, and higher incomes in every society."⁵ Recent usage of production factors has distinguished human capital (the stock of knowledge in the labor force) from labor (Samuelson and Nordhaus, 2004). Innovation through development of new technologies can play a major role in a country's attempt to leap into a developed country status. In today's business world, the classical factors of production (land, labor, and capital) in neoclassical economics has been expanded to include entrepreneurship, technology, innovation, and knowledge based human capital which place a significant importance on tertiary education. According to the Marxian school of thoughts, human capital is the primary factor of production. The OECD (Organization for Economic Co-operation and Development) has found that,

¹ Editorial remarks made by Barbara Ischinger, Director for Education, OECD, 2009. Education at a glance 2009: OECD indicators

² John F. Kennedy (1917-1963), thirty-fifth president of the United States of America (USA)

³ National Higher Education Action Plan, 2007-2010. "Triggering Higher Education Transformation," August 27, 2007, p.9

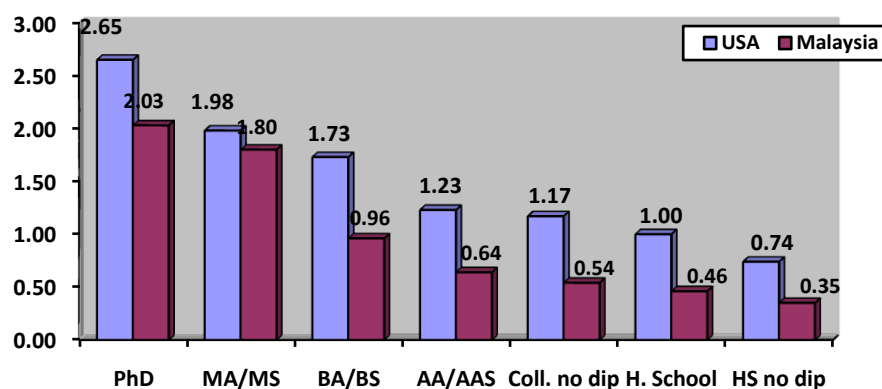
⁴ MOHE, the Ministry of Higher Education, 2007-2010, p.11

⁵ The World Bank report, "Education Year in Review 2010" Available online: <http://go.worldbank.org/JVGUHPQLC0>

on average, tertiary education generates a rate of return of 11% for males and 9% for females when higher education is undertaken after leaving secondary school; when undertaken at age 40, the public returns are reduced slightly to 9.5% for males and 6.6% for females.⁶ The Prime Minister of Malaysia strongly feels that human capital is the key to economic development and he highlighted his most concerned five areas to improve: 1. moving the economy up the value chain; 2. raising the capacity for knowledge and innovation to nurture a first-class mentality; 3. addressing persistent socioeconomic inequalities constructively and productively; 4. improving Malaysians' quality of life and ensuring its sustainability; and 5. strengthening institutional and implementation capacities.

"Knowledge and advanced skills are critical determinants of a country's economic growth and standard of living as learning outcomes are transformed into goods and services, greater institutional capacity, a more effective public sector, a stronger civil society, and a better investment climate. Good quality, merit-based, equitable, efficient tertiary education and research are essential parts this transformation. Both developing and industrial countries benefit from the dynamic of the knowledge economy. The capacity for countries to adopt, disseminate, and maximize rapid technological advances is dependent on adequate systems of tertiary education. Improved and accessible tertiary education and effective national innovations systems can help a developing country progress toward sustainable achievements in the Millennium Development Goals, particularly those goals related to all levels of education, health, and gender equity."⁷ The critical objectives outlined in the National Higher Education Strategic Plan 2007-2010 as well as the strategies highlighted in the Prime Minister's message are not just about some basic goals to achieve, but they are the indispensable steps of an educational revolution called upon Malaysia which requires successful implementation of many life-changing educational reforms in order to create HEIs where human capital is the most invaluable asset. Although the international organizations such as the World Bank and the OECD have been working on ways for the universities to depend less on the government for funds, however currently, public universities in Malaysia are still heavily dependent on government funding for their operations which is around 90%; the remaining 10% comes from the tuitions paid by the students (the government's education expenditure was estimated to be in excess of RM 6 billion for 2007 which is around \$2 billion dollars - \$1 = RMY 3.08). This major government funding in a way limits universities' freedom and places additional pressure on public universities to align their key strategies with those of the Ministry. According to the numbers published by the MOHE, as of 2006, public HEIs had 20,000 lecturers of which 25% held PhDs and the Ministry's goal is to raise this number to 60% by 2010. The United Nations Conference on 'Trade and Development's (UNCTAD) World Investment Report 2005' ranked Malaysia in the 60th place in its Innovation Capability Index ranking (based on 2001 data) which evaluates countries on two critical dimensions: 'Technological Activity' (i.e. innovation, R&D, and technological progress) and 'Human Capital' (i.e. literacy rate, secondary and tertiary enrolments).⁸

Figure 1: Expected Lifetime Earnings Relative to High School Graduates, by Education Level⁹



⁶ Education at a glance, OECD 2009: OECD indicators, p192 (as cited in Commentary, 2010)

⁷ The World Bank report, "Tertiary Education (Higher Education)" Available on: <http://go.worldbank.org/HBEGA0G2P0>

⁸ See the MOHE: National Higher Education Action Plan, 2007-2010

⁹ Source: Day and New burger, 2002 (as cited in Baum & Payea, 2005); calculations for Malaysia by the author

When the expected lifetime earnings relative to high school graduates are compared between the United States and Malaysia in figure 1, a similar behavior of earnings increases is observed between the two countries from some high school education without a diploma all the way to a bachelor's degree, however this comparison shows three very interesting results for Malaysia which are very different than the US; first, the lifetime earnings of different educational levels in Malaysia are little less than half of those in the United States until the master's degree which is largely expected, but what is surprisingly not expected is that a more than anticipated jump in lifetime earnings occurs with the attainment of a master's degree in Malaysia, which is much more significant than what has been observed in the US (87.5% and 14.5% respectively); second, the lifetime earnings of master's and PhD degrees in Malaysia are very close to those in the US (only 10% separates master's degree's lifetime earnings and 30.5% in PhD). Lastly, the gap of lifetime earnings between a master's degree and a PhD in Malaysia is closer (PhD earns 12.8% more) to each other than it is in the US (much larger difference, 33.8%). In the case of US, besides the jump in earnings from no high school diploma to high school diploma (35.14% increase), lifetime earnings are not very significant from a high school diploma all the way to the associate degree (2yr AA), the real difference in earnings starts with the attainment of a bachelor's degree (40.65% increase). Then second major difference in earnings begins with a PhD degree, which has 33.84% more earnings than a master's degree; 53.18% more than a bachelor's degree; almost two and a half times more than the lifetime earnings of an associate's degree; and close to four times more earnings than a high school diploma. There are clear indications at every step of the way that increases in education levels, especially tertiary education, provide positive increases in earnings. Baum and Payea (2005) argue that tertiary education provides individuals both financial and social benefits. Key financial benefits include: (a) A positive correlation exists between higher levels of education and higher earnings for all racial/ethnic groups and for both men and women; (b) the income gap between high school graduates and college graduates has increased significantly over time; and (c) any college experience produces a measurable benefit, but the benefits of completing a bachelor's degree or higher are significantly greater. Social benefits include: (a) Higher levels of education correspond to lower levels of unemployment and poverty, more to tax revenues than others do, and adults with higher levels of education are less likely to depend on various government services; (b) College graduates have lower smoking rates, more positive perceptions of personal health, and lower incarceration rates than individuals who have not graduated from college; and (c) higher levels of education are correlated with higher levels of civic participation, including volunteer work, voting, and blood donation. The paper is organized around two questions: (1) is tertiary education an investment, if so, what is the monetary return of that investment? (2) How is Malaysian tertiary education system compared to others?

Table 1: Total Public Expenditure on Education (1995, 2000, 2006)¹⁰

Country	2008 All education levels %	2000 All education levels %	1995 All education levels %	Public expenditure in billions USD (2004)
Australia	12.9	13.8	13.8	30.59
Canada	12.3	12.4	12.7	50.85
Germany	10.4	10.1	8.6	131.55
France	10.6	11.6	11.5	122.80
Italy	9.4	9.8	9.0	82.21
Japan	9.4	9.5	9.8	171.04
Malaysia (2009)	18.9	m	m	9.46
Turkey (2011)	13.4	m	m	19.4
OECD Average	12.9	12.7	11.8	m
United Kingdom	11.1	11.0	11.4	116.84
United States	13.8	14.4	12.5	690.99

Malaysia's National Education Philosophy (NEP), formulated in 1988, states that "education in Malaysia is an on-going effort to further develop the potential individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious,

¹⁰ Education at a glance, OECD 2009: OECD indicators. p241. The data for Malaysia is from: UNESCO Institute for Statistics in EdStats, 2011. The source for public expenditure figures is: World Bank, EdStats (2004)

based on a firm belief in and devotion to God. Such an effort is designed to produce Malaysian citizens of high moral standards, knowledgeable and competent, and who are responsible and capable of achieving a high level of personal well-being as well as being able to contribute to the harmony and betterment of the family, the society and the nation at large.”¹¹ In table 1, the primary school enrolment rate and the youth (15-24) literacy rate are pretty impressive; 95.9 and 98.5 respectively. Additionally, Malaysia’s high level of commitment to achieving 40% tertiary education enrollment goal is reinforced by government expenditure (5.8% of the GDP) on education which happens to be pretty close to the average government spending by the OECD countries (6.1% of the GDP). More importantly, Malaysia spends nearly 20% of all government expenditure on education.

Table 2: Expenditure on Educational Institutions as a Percentage of GDP¹²

Country	2006 All education levels %	2000 All education levels %	1995 All education levels %
Malaysia (2009)	5.8	5.5	5.2
Turkey	2.7	2.5	1.7
OECD Average	5.7	5.4	5.1
OECD Total	6.1	5.8	5.5
OECD Mean	5.5	5.2	5.4
United States	7.4	7.0	6.6

In most countries worldwide, the public expenditure on education is quite large and a high priority, in fact, it is usually one of the top spending of government fiscal budget in many countries. As shown in table 2, Malaysia has spent 5.8% of its total GDP (Gross Domestic Product) on all levels of education in 2009, which is nearly 19% of all government expenditure. Malaysia’s public expenditure is very close to OECD countries, which spend 6.1% of their collective GDP on all educational institutions. Iceland with 8% is the highest on the list among the OECD countries, and Turkey is the lowest at 2.7% of GDP.¹³ “In all countries for which comparable data are available, public funding on educational institutions at all levels combined, increased between 1995 and 2006 (except Israel, which experienced a decline from 1995 to 2006 on education expenditure). Private spending increased at an even greater rate in nearly three-quarters of these countries. Nevertheless, in 2006, 85% of expenditure, on average, for all levels of education combined, was still from public sources.”¹⁴ Although many concerned parents, universities and colleges, governments, public and private businesses, and society at large have been recently considering tertiary education as a major investment in a student’s life (second largest investment beside purchase of a house), however the whole education system including tertiary education in Malaysia is not so much considered as an investment, but it is seriously viewed as a continuous and fully committed effort to develop an educational environment based on “a firm belief in and devotion to God.” In this highly spiritual setting, students are very much encouraged developing the necessary skill sets to become fully ready to compete for the limited job opportunities immediately after graduation. Devotion, good ethics, moral behavior, high spirits, personal commitment, strong religious values, and striving for excellence are the indispensable characteristics of Malaysia’s education system where benefits to individuals, families, societies, and the nation are fostered. Education at a Glance (OECD 2009) noted that “between 1995 and 2006, total public budgets as a percentage of GDP tended to increase slightly. Education took a growing share of total public expenditure in most countries, and on average, it grew as fast as GDP.”¹⁵ OECD also reported that “nearly one-third of combined OECD expenditure on educational institutions is allocated to tertiary education.”¹⁶ Malaysia’s public expenditure on education as a percentage of total public expenditure easily surpassed any of the 30 OECD-member countries plus six of the OECD-partner countries (i.e. Brazil, Chile, Estonia, Israel, Russian Federation, and Slovenia), which is a clear indication how much value Malaysia places on education and how strongly it feels about the important role of tertiary education in country’s promising future. For instance, the United States by far spends more

¹¹ The data compiled by UNESCO-IBE. <http://www.ibe.unesco.org/> (Ministry of Higher Education: <http://www.mohe.gov.my/>)

¹² Education at a glance, OECD 2009: OECD indicators. p218. The data for Malaysia is from: UNESCO Institute for Statistics 2011

¹³ Education at a glance, OECD 2009: OECD indicators. p208

¹⁴ Education at a glance, OECD 2009: OECD indicators. p223

¹⁵ Education at a glance, OECD 2009: OECD indicators. p237

¹⁶ Education at a glance, OECD 2009: OECD indicators. p212

money on education than any country in the world due to its enormous GDP size, in fact, the US has a public education expenditure that exceeds nearly 50% of the OECD countries' all education spending are combined. Of course, this is all in relation to a country's GDP where there is a perfect correlation between countries' GDPs and governments' total spending on all levels of education; countries with larger GDPs tend to spend more on education than those with smaller GDPs. The data shows that "OECD countries as a whole spend, on average, USD 8 857 annually per student enrolled in primary through tertiary education."¹⁷ The OECD-member, EU21, and OECD-partner countries (except Brazil) have spent less on education in 2008 than the previous years, which may be in some ways interpreted as the adverse effects of the 2008 global financial crisis.

2. Review of the Main Concepts

In the last decade, the world has witnessed an economic turmoil in such great magnitude, which later turned into a global financial meltdown, not seen since the WWII, which IMF called it as 'the largest financial shock since Great Depression.' During the times of financial distress, economies tend to contract really fast which then leads to a major shrinkage in available credit forcing everyone (i.e. individuals, businesses, governments, private and public educational institutions) to become conservative on expenditures or investment decisions. Although the global economy may be showing signs of a slow recovery, but still now and then some bad news surface the headlines (i.e. Greece, Iceland, and Portugal) and make the weary investors nervous all over again. Commentary, Issue 1 (August 2007) documented that there is a relationship between university research and economic growth. For example, Commentary, Issue 6 (July 2010) reported estimates of the contribution universities have made to total economic growth in the United States since WWII range from 12% - 25%.¹⁸ In the United Kingdom, universities are estimated to contribute at least £59 billion annually to the country's economy.¹⁹ Commentary, Issue 6 (July 2010) documented that In the United States, the return on public investment is estimated to be 10.3% above inflation – or at least US\$7.46 for every dollar the government invests in a college graduate (Trostel, 2008). Recent usage of production factors has distinguished human capital (the stock of knowledge in the labor force) from labor (Samuelson and Nordhaus, 2004). Innovation through development of new technologies can play a major role in a country's attempt to leap into a developed country status. In today's business world, the classical factors of production (land, labor, and capital) in neoclassical economics has been expanded to include entrepreneurship, technology, innovation, and knowledge based human capital which place a significant importance on tertiary education. According to the Marxian school of thoughts, human capital is the primary factor of production. Without the human knowledge (i.e. innovation, entrepreneurship, and special use of technology) of expertise, production would not take place regardless of amount of capital or raw materials. The government of Malaysia understands this aspect of production very well, and committed to do what it takes to develop the nation's human capital according to the needs of the 21st century. This goal was also highlighted in the National Higher Education Action Plan, 2007-2010 message given by the Prime Minister and he said: "Let us work together to create first-class human capital and develop a nation of excellence, glory and distinction."

In their book entitled "Women's Education in the Third World," Kelly and Elliott (1982) asked the question "...how education affects women and can be made to improve women's lives recognizing that schooling throughout the Third World in the context of social system that oppress women." It is true that we see serious problems of oppression of women more in the Third World or developing countries, however it does not necessarily mean that similar problems do not occur in developed countries (i.e. glass ceiling for women in corporate America), probably they do happen to a certain extend but not as frequent or obvious as they seem to occur in less developed countries. The Malaysian culture is very diverse consisting of three main groups of people; "Malays, constituting 45% of the population which is also made up by many different ethnicities, have historically been the least economically and educationally developed group. The Chinese and Indians, who make up about 35% and 9% of the population, are in control of and dominate the modern industrial, commercial and professional sectors of the economy" (Kelly and Elliott, 1982, p.70). Although

¹⁷ Education at a glance, OECD 2009: OECD indicators. p190

¹⁸ Committee for Economic Development (1998), America's Basic Research: Prosperity through Discovery. Available online: http://ced.issuelab.org/research/listing/americas_basic_research_prosperity_through_discovery

¹⁹ Remarks by Lord Mandelson, 4 November 2009, at launch of Universities UK report. 'Universities value to economy increase – UUK report'. Available online: www.universitiesuk.ac.uk/Newsroom

inequality in wages between men and women have improved considerably over the recent decades in developed countries, a major gap in earnings still do exist worldwide, and the gap widens as the development level of the country worsens. To increase the Malays' economic and educational performance in Malaysia, the government has put in some drastic measures (i.e. more than three quarters of government scholarships have been reserved for Malays), which may be viewed as discriminatory for others. Figure 1.2 shows indications that the nation of Malaysia is well connected and working together towards achieving the challenging objectives set in the country's 'National Higher Education Action Plan, 2007-2010.' Malaysia has done a tremendous job in tertiary education enrollment growth rate over the years, which has grown around 5.8% annually in tertiary education and 3.3% in all levels of education in the recent years; this amazing growth on a percentage level surpassed the OECD average growth (4.5% and 1.1%). Turkey (7.8% and 3.4%) is the only country producing better numbers than Malaysia which may be largely due to the fact that more than half of Turkey's population is still very young in the 0-30 age group (38 million people according to the 2000 census). Furthermore, the number of public and private universities (over 160) in Turkey is close to three times more than those in Malaysia. One important conclusion of figure 1.2 is that developing countries (Malaysia, Turkey, and Mexico) have been spending more money on all education levels than the developed countries; this may very well be the case due to the fact that developing countries are still trying to establish a certain level of standards, but the standards in question have already been established in developed countries probably close to half century ago. The increase of tertiary education enrollment heavily depends on what percentage of students who finish secondary education actually moves on and enrolls in a higher education institution (HEIs). This could be viewed as all secondary education graduates being potential candidates for the HEIs.

The Chartered Management Institute (CMI) in UK has reported that female managers are now paid an average £31,895 (\$51,220, £1 = \$1.6059) per year, compared with £42,441 (\$68,156, 33.1% more than women) for men doing the same job.²⁰ According to the CMI's recent survey, females make less than the average wages compared to men in the following categories: Manufacturing, retail, Insurance, information technology (IT), and human resource (HR).²¹ The same survey also revealed an interesting data, which showed more female managers (4.2%) in the UK for choosing to quit their jobs than their male colleagues (3.6%). National Committee on Pay Equity, originated in 1996, reported that women then earned about 73.8 cents for every dollar men earned. The year is 2012, 16 years later; women now earn 77.4 cents for every dollar men earn (ridiculously small 4.89% increase in 16 years of time).²² The OECD data shows that earnings increase with each level of education. The earnings premium for tertiary education is substantial in most countries and exceeds 50% in 17 out of 28 countries. With few exceptions, females earn less than males of similar educational attainment.²³ Females with below secondary education are particularly disadvantaged in Canada, Ireland, Turkey, the United Kingdom, the United States, and Brazil. Financial rewards from tertiary education benefit females more than males in Australia, Austria, Canada, Germany, Korea, Spain, Norway, Switzerland, and the United Kingdom.²⁴

Tertiary education, as a major investment in students' lives, does provide positive financial returns immediately after graduation. The substantial benefits of tertiary education are not just for the students, but for everyone else too; parents, governments, and societies at large. With the increase in education levels and higher earnings as a result of that, more taxes are paid to the governments, which later are returned back to the society in terms of public services (i.e. security, economic development, social security, public transportation, health care, and other government services). In addition, people with tertiary education are able to invest more than others with less education (i.e. buying a house, car, luxury items, and more); this generates economic activity, which creates jobs for those who need them. Recent research on the topic shows that people with higher education especially tertiary education are seldom involved in crimes and they are the least likely candidates for drug or alcohol addiction, which saves the government money in indirect ways (i.e. less government money would be spent on such things as; substance-use preventive programs, building more prisons, and fighting crimes). Another thing is that people with tertiary education are also thought to

²⁰ BBC World News (31 August 2011): "Gender pay gap widens to £10,500 for managers, CMI says"

²¹ Source: CMI; 34,158 UK executives were surveyed by XperTHR on behalf of the Chartered Management Institute (CMI)

²² See National Committee on Pay Equity at <http://www.pay-equity.org/>

²³ Education at a glance, OECD 2009: OECD indicators. p137

²⁴ Education at a glance, OECD 2009: OECD indicators. p140

be more capable of planning not just for their future but also the future of their children by saving and making smart investments which can in a way create a new generation of citizens who are far less dependent on government assistance, this way some of the unused government funds would be available to be utilized for other educational programs. The OECD said that investments in tertiary education generate substantial financial rewards in most OECD countries. Male students in Portugal, Italy and the United States investing in tertiary education can expect to gain more than USD 150,000 over their working life. The returns for female tertiary students exceed USD 100,000 in Portugal and Korea. For males, the average tertiary education returns are USD 82,000, which is 105% more than the returns of upper secondary or post-secondary non-tertiary education (\$40,000). The average earnings for females are USD 52,000 compared to USD 28,000 (85.7% increase over upper secondary or post-secondary non-tertiary education).²⁶ The negative effects of social transfers are particularly strong in Denmark and New Zealand where the returns for females are reduced by 25 000 USD or more.²⁷

Figure 2: Annual average growth in 25-64 year-old population between 1998 and 2006²⁵ Percentage of tertiary education

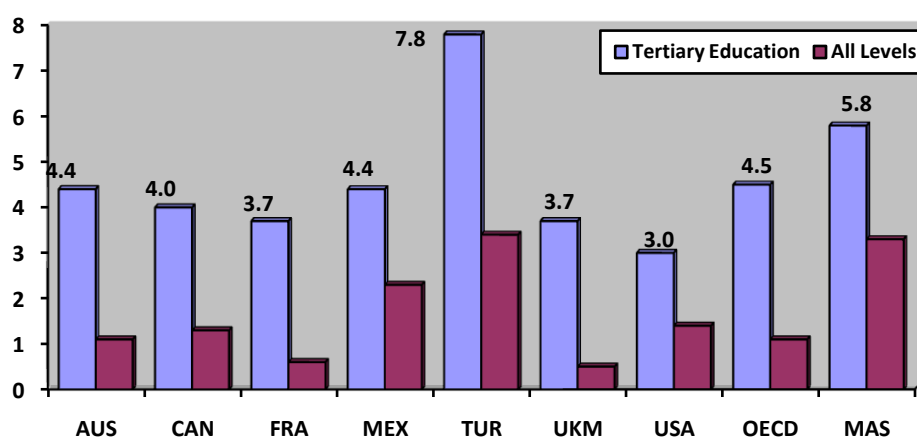
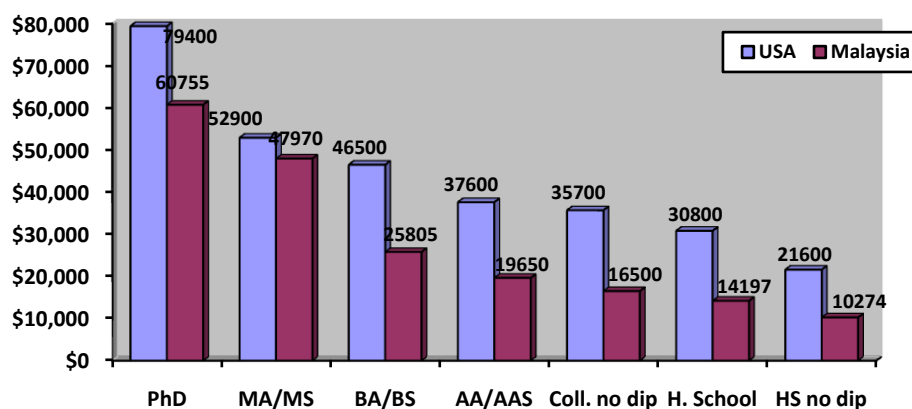


Figure 3: A Comparison of Education Levels, Wages and Paid Taxes in the United States²⁸



The US Census Bureau reported that a person with no high school diploma earned \$21,600 and paid \$4,300 to the government in taxes. The earnings jump considerably to \$30,800 with obtaining a high school diploma (an increase of 42.59). The real power of earnings comes with a bachelor degree, which makes about \$46,500; this is 23.7% higher than a college diploma and an amazing 115% more than somebody with a high school diploma. People with Masters' degree earn \$52,900 of which \$14,900 is the taxes. This means that a Master's

²⁶ Education at a glance, OECD 2009: OECD indicators. p152

²⁷ Education at a glance, OECD 2009: OECD indicators. p153

²⁵ Education at a glance, OECD 2009: OECD indicators. p42. Malaysia data has been calculated by the author using MOHE numbers

²⁸ U.S. Census Bureau, 2004, PINC-03

degree holder makes \$6,400 (13.8%) more than Bachelor; \$15,300 (40.7%) more than college; and \$22,100 (71.8%) more than a high school graduate. The top earner in education career goes to the PhD holder (\$79,400) who makes \$26,500 (51.1%) more than Masters' and \$32,900 (70.6%) more than a Bachelor degree holder. In addition, a PhD degree on average brings close to four times more wages than a non-high school graduate. On average across OECD countries, the value invested in a male obtaining a tertiary education is USD 67 000, taking into account public and private spending, as well as indirect costs in the form of public and private foregone earnings and taxes. In Austria, Germany and the United States the present value of the investment costs exceeds USD 100 000.²⁹ Other recent researches on the topic show that salaries in Malaysia also tend to go higher with the increase in education levels as observed in US and the OECD member and partner countries; this is also expected to be true for the remaining countries in the world as well. Somebody with no high school diploma in Malaysia makes an annual gross salary of MYR 31,645 (\$10,274) which is MYR 12, 081 (\$3,922 or 38.18%) less than a high school graduate who makes MYR 43,726 (\$14,197). A bachelor degree, the start of a significant potential of higher earnings, can earn MYR 79,478 (\$25,805) which means MYR 18,595 (an increase of \$6,037 or 31.32%) more than a college diploma and MYR 35,752 (\$11,608 or 81.8%) more than a high school diploma. The wages gap between a master's and bachelor degrees in US is not extremely large (only an increase of \$6,400, or 13.8%), but in Malaysia the difference between the two degrees is an incredible increase of MYR 67,810 (\$22,016 or 84.8%); this is three times more than the increase in US. A significant increase in earnings in Malaysia starts with a master's degree, which can earn about MYR 147,747 (\$47,970). A PhD holder, as the top earner in education career, makes about MYR 187,125 (\$60,755), which is MYR 39,378 (\$12,785 or 26.65%) more than somebody with a master's degree.³⁰

Adverse effects of globalization are more often seen in poor countries (underdeveloped) and to some extent in developing countries than developed countries because non-developed countries are mostly lacking of critical know-how (human capital), sufficient infrastructure, minimum technological development, and proper policies/regulations to encourage businesses to make lasting investments to create jobs in the home country. Instead, many of the foreign companies are only interested in invading the markets with their products and services to increase profit margins. Globalization effects can be seen in tertiary education in the form of private universities of developed countries opening new campuses in these less developed countries. According to the estimates of Blight and West (1999), in the area of foreign students' enrollment in the tertiary education, Malaysia is in direct competition with China, Singapore, and Hong Kong for close to half a million students by 2020. As Scott (1998) put it, transnational higher education could be interpreted as the internationalization of tertiary education where Malaysia needs to take serious strategic steps to prevent Malaysian students from going abroad to pursue higher education studies. The OECD reported that as of 2007, 3.0 million tertiary students were enrolled outside their country of citizenship, of whom 2.5 million (83.5%) studied in the OECD area (about 19.7% in the US). This represented a 3.3% increase of 96,000 additional individuals in total foreign enrolments worldwide since the previous year. In the OECD area, the increase was very slightly larger at 3.4%. Since 2000, the number of foreign tertiary students enrolled in the OECD area and worldwide increased by 59%, for an average annual increase of 7%.³¹ Based on the MOHE numbers, in 2009 58,963 Malaysian students enrolled in tertiary education abroad and this number has increased to 79,254 students in 2010 (34.4% increase over 2009). The number one destination for Malaysian students enrolled in tertiary education in 2010 has been Australia with 20,493 students (an increase of 18.4% over 2009), the United Kingdom & Ireland – 13,796 students (162% more than 2009), Egypt – 8611 students (no increase from 2009 total) came in second and third place respectively. Other popular countries for Malaysians to pursue tertiary education included: The United States – 6,100 students (5,942 students in 2009, increased only 2.7%), Taiwan – 5,133 (only 40 students in 2009), Indonesia – 5,588 (decreased 4.6% over 2009), China – 2,792 (an increase of 32.1% over 2009), and New Zealand – 2,305 (37.9% more than 2009). The OECD and UNESCO Institute for Statistics data also showed that the number of foreign students has increased dramatically since 1970s, from 0.8 million worldwide in 1975 to 3.0 million in 2007.³²

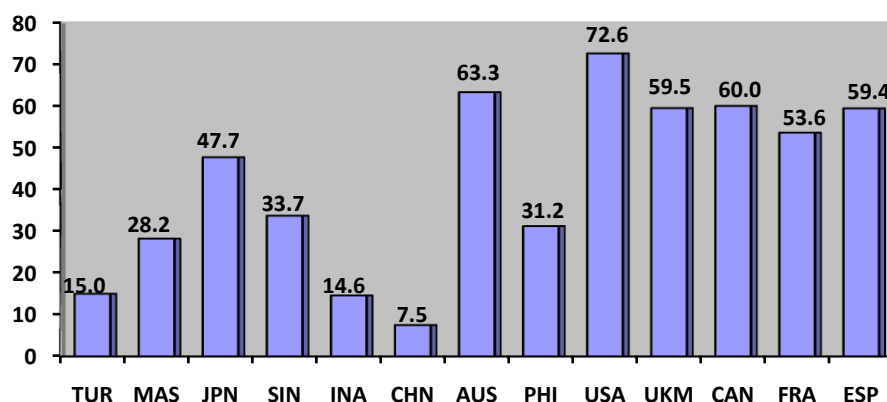
²⁹ Education at a glance, OECD 2009: OECD indicators. p161

³⁰ The source of data: <http://www.averagesalarysurvey.com> (calculations by the author: \$1=MYR 3.08 used)

³¹ Education at a glance, OECD 2009: OECD indicators. p312

³² Education at a glance, OECD 2009: OECD indicators. p313

Figure 4: Tertiary Education Enrollment Rates (percentage)³³



The United States, having over 7,000 HEIs and more than 15 million students, offer the best opportunities and easier access to tertiary education system than any country in the world. Therefore, it is not shockingly surprising that the US has 72.6% tertiary education enrollment rate, which happens to be the highest. Although Malaysia's tertiary education enrolment rate (28.2%) has improved significantly over the years and as it is shown in figure 1.4, it is better than Indonesia (14.6%), China (7.5%), and Turkey (15.0%), but it is still worse than Philippines (31.2%), Singapore (33.7%), and Japan (47.7%). Malaysia's tertiary education enrollment rate is at least 50% or more less than the average tertiary education enrollment rate in OECD member countries (around 60%). The number of Malaysians (32,701 students as of 2001) going abroad to pursue tertiary education is more than the foreign students in USA (30,103).³⁴ In the case of Turkey, the tertiary education enrollment rate is somewhat misleading because nearly 1.5 million students annually take a national examination in order to enter universities of which only 15-20% of the students who succeed continue on their higher education studies. Another obvious problem in Turkey's inflexible education system is that the university tuitions are extremely high for students coming from rural parts of Turkey (mainly from the cities in Anatolia).

3. Methodology

This research paper began with reviewing previously published academic works in the area of the return of investment on tertiary education in Malaysia. The paper is organized around two questions that are particularly important to establishing evidence of how people are recently considering tertiary education as an investment and in what ways this important investment in a student's life provides positive benefits. The first question asks whether or not tertiary education is an investment, if so, what is the monetary return of that investment? The second question is; how is Malaysian tertiary education system compared to others?

4. Conclusion

A well-established education system at all levels is favorably argued to lead to a greater degree of economic development and prosperity in countries where education has always been a high priority in government expenditure. Robert B. Zoellick, President of the World Bank Group 2010, said: "Improved learning leads to better jobs, greater productivity, and higher incomes in every society." Barbara Ischinger, Director for Education - OECD, points out "Education has always been a critical investment for the future, for individuals, for economies and for societies at large." John F. Kennedy once said; "Let us think of education as the means of developing our greatest abilities, because in each of us there is a private hope and dream which, fulfilled, can be translated into benefit for everyone and greater strength for our nation." Education in general, but especially tertiary education has been the undeniable locomotive of the enormous economic progress and invaluable technological innovation in US which is, according to the Times list (2005), the home for 54 of the top best 200 universities worldwide (168 US universities made the top 500 university list); so far one

³³ UNESCO; United Nations Human Development Program; OECD Education at a Glance: OECD Indicators 2003; TIMSS; OECD; OECD; UNESCO Institute of Statistics; UNESCO Institute for Statistics; OECD

³⁴ See Hatakenaka, S. (2004): "Internationalism in Higher Education: A Review." Higher Education Policy Institute

university from Malaysia made the. Countries in the region did much better in the top 200 university list than Malaysia; Australia (17), Japan (10), China (6), Hong Kong (4), New Zealand (3), South Korea (3), and Singapore (2). Countries same as Malaysia include Ireland, Thailand, Spain, Mexico, Norway, Brazil, and Taiwan. Commentary, Issue 6 (July 2010) reported estimates of the contribution universities have made to total economic growth in the United States since WWII range from 12% - 25%. In the United Kingdom, universities are estimated to contribute at least £59 billion annually to the country's economy. Commentary, Issue 6 (July 2010) documented that In the United States, the return on public investment is estimated to be 10.3% above inflation – or at least US\$7.46 for every dollar the government invests in a college graduate (Trostel, 2008). Thus far, the research of data analysis made it perfectly clear that human capital equipped with all necessary skills is prerequisite for economic development to leap into a developed-country status. Malaysia as a nation has a very clear understanding of the challenging task in front of them and the key objectives to achieve are set in the country is the National Higher Education Strategic Plan 2007-2010. Over the past three decades, Malaysia has achieved some tremendous economic growth thanks to the astounding progress made in all levels of education, especially in tertiary education where from one public university established in 1961, now the country has more than one million students enrolled in the 20 public and 32 private universities, four campuses of well-known international universities, 21 polytechnics, 37 public community colleges, and close to 500 private colleges. But, Malaysians feel that the work is not over, in fact it has just begun as highlighted in the Prime Minister's speech that " the success of our human capital development agenda rests in large part on the quality of the national education system. Therefore, the Government aims to spearhead an effort to transform the national education system at all levels, from pre-school through higher education. Let us work together to create first-class human capital and develop a nation of excellence, glory and distinction."³⁵

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³⁵ Message from the Prime Minister: National Higher Education Action Plan, 2007-2010, p.3