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Egypt and Malaysia: Investment, Education and Economic Growth

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Abstract

Numerous economists have explained economic growth using multiple theories and models, many of which highlight the importance of the accumulation of physical and human capital as the main determinants of growth. This paper aims to study the effect of investment in physical capital and human capital on economic growth and income per capita in Egypt and Malaysia, and then develop an inter-relationship between the two forms of capital. The paper argues, using evidence in the form of literature and data, that there is a strong connection between physical and human capital and that sustainable economic growth can only be achieved by investing in both stocks of capital. The paper therefore concludes with a policy recommendation *vis- à-vis* education in Egypt.

Malaysia

Malaysia stands today as one of the successful tiger economies and is classified as an upper-middle income country by World Bank (2015). Throughout the past three decades, it was significantly able to reduce its poverty rates from 49.3% in 1970 to an impressive 3.6% in 2010 (Tan, 2014). Due to its heavy reliance on trade and because it is the fourth most open economy in the

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world (Ahmed, 2012), Malaysia was severely affected by the 2008 financial crisis and the Asian 1998 crisis as is reflected in the several graphs presented in this paper, including its GDP growth rates in figure 1.0, but it showed quick ability to recover and sustain high growth rates following the crises.

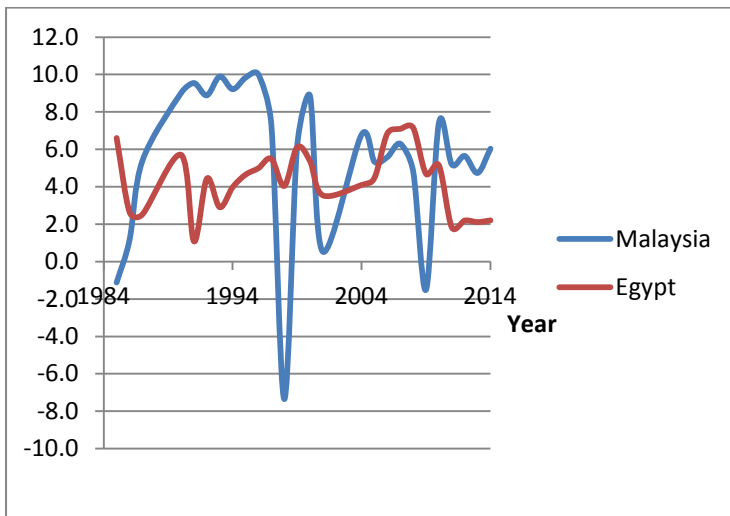


Figure 1: GDP Growth rates. Data source: World Bank

According to Solow's (1956, 1957) exogenous neoclassical theory, growth is achieved by capital accumulation. Consequently, domestic financial development plays an immense role in capital accumulation through the stimulation of local investment as well as FDI inflows, with the latter being one of the greatest contributors to Malaysian growth since the 1970's (Ahmed, 2012). Figure 2.0 shows Malaysia's net inflow of FDI as a percentage of GDP. Following the

classical textbook approach that states that investment is influenced by the savings level in the economy, Malaysia's gross domestic savings as a percentage of GDP has been persistently high since 1985 as shown in figure 3.0, and the domestic credit provided by the financial sector exceeded 100% of GDP throughout most of the years. These two factors stimulate investment in the economy, aiding the process of capital formation as shown in Figure 4.0.

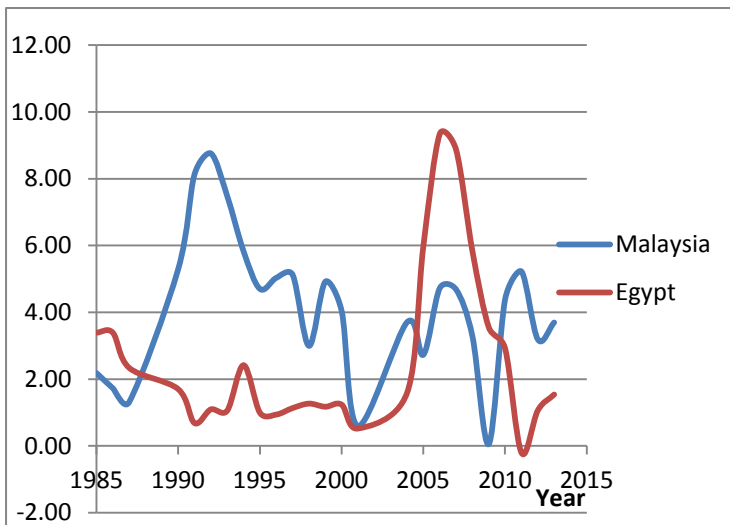


Figure 2: FDI Net Inflows, % of GDP. Data source: World Bank

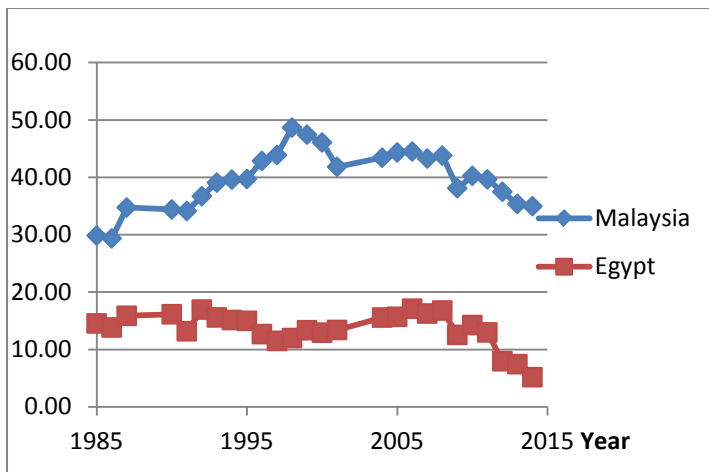


Figure 3: Gross Domestic Savings, % of GDP. Data source: World Bank

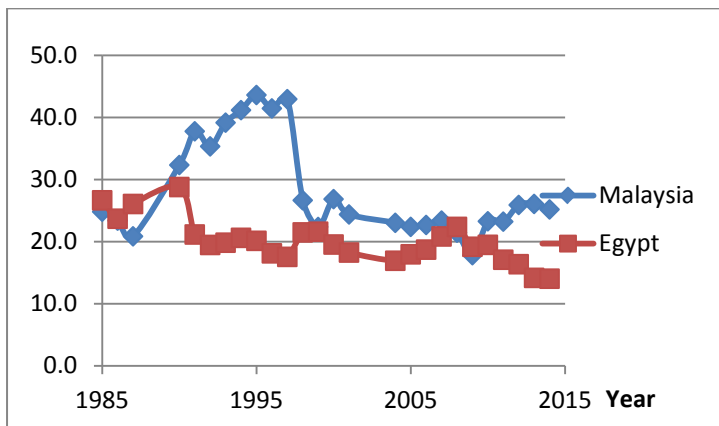


Figure 4: Gross Capital formation, % of GDP. Data source: World Bank

There are several reasons that motivate FDI inflows in Malaysia. Aside from adopting fiscal strategies to encourage capital inflow and promote exports, the favourable investment atmosphere is sustained by the recognition of the importance of the private sector to stimulate growth. The public sector has eased the functioning of the private sector through liberalizing foreign equity involvement and the Industrial Coordination Act (ICA) in the late 1980s (Tan, 2014). Moreover, there are macroeconomic factors that attract foreign capital into the country. Malaysia's inflation rate has not exceeded 4% since the mid 1980s, and there was an overall budget surplus throughout most of these years (Tan, 2014). In addition, political stability encourages foreign investors to invest in the country, as investment is risk averse and stability minimizes these risks.

Malaysia also enjoys other strengthening factors for investment and capital accumulation. The availability of proper infrastructure is vital to the development of the private sector. The economy has spent widely on power plants, roads, and ports to ease accessibility and convenience (Tan, 2014). In addition, Malaysia's large market size attracts FDI inflows and consequently increases aggregate demand, which should be met by increased investment to stimulate output (Choong, C.-K., Yusop, Z., Law, S.-H., & Liew, V.K.-S, 2005). There is hence a bidirectional relationship between FDI and growth, as increased FDI stimulates growth and increased growth attracts further FDI.

The link between investment and growth in Malaysia can also be attributed to the fact that most of the FDI focuses

on high-tech products. Investing in capital that supports value-added industries such as bio-technology, electronics, machinery and transportation (Choong & Lim, 2009) promotes growth not only due to the direct investment in these industries but also due to the contribution to the "economy-wide capital" (Romer, 1986, 1990), which accelerates economic growth due to its spill-over effects on other industries in the economy. Due to the non-rivalry quality of knowledge and technology, their advantages could easily promulgate to the rest of the economy (Tan, 2014). However, this proliferation depends on the economy's "absorptive capacity" (Choong et. al, 2005), which is where the connection between physical capital and human capital is formed. For the economy to translate the benefits of FDI and technology into economic growth, it must work on parallel investments in human capital, for only an educated and healthy workforce can be able to utilize these advancements. Malaysia's massive investment in human capital explains its growth throughout the past three decades. Government expenditure on education has not fallen below 14 % of GDP and reached a high of 24.3 % in 2001 (World bank, 2015). Malaysia has an almost fully literate population of 94.6% with illiteracy prevailing only among the elderly who lacked education in the past (Tan, 2014). The substantial investment in education has also helped eradicate poverty and inequality, and Malaysia's gender equality is a lesson to many developing countries as there is a 3% difference only between male and female literacy rates, compared to a 16% in Egypt. Concerning health, there has been an extensive decline in child and maternal mortality rates

due to nutrition programs (Leete, 2007, cited by Tan, 2014) as well as public expenditure on health, which stands at about 6% of GDP (World Bank, 2013). This is reflected on the economy's HDI, as Malaysia has a high development index of 0.773 with a life expectancy of 75 years (World Bank, 2015). Figures 5.0 and 5.1 show Malaysia's expenditure on education and health respectively across time.

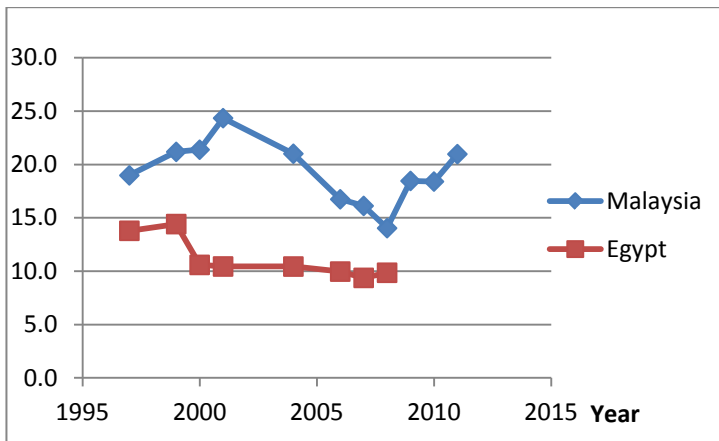


Figure 5.0: Percentage of government expenditure on education, total. Data source: World Bank

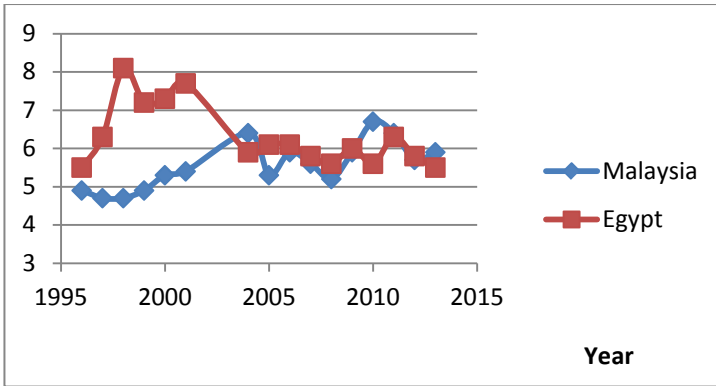


Figure 5.1: Percentage of Gov. Expenditure on Health, public.
 Data source: World Bank

Malaysia's extensive investment in human capital is consistent with endogenous growth theories that emphasize the externalities of knowledge accumulation to facilitate the adaptation of technology and improve the country's absorptive capacity (Tan, 2014). In this respect, it could be concluded that Malaysia's GDP and income per capita growth rates are attributed to its increased absorptive capacity through investments in technology and human capital, both of which paved the way for the advancements in physical capital and FDI to be reflected on increased income levels in the economy.

Egypt

Since the importance of physical and human capital to an economy's income has already been established, the comparison between Malaysia and Egypt should be straightforward, as Malaysia's strength points were

Egypt's weaknesses. Egypt's performance indicators have been poor throughout the past three decades, with average FDI inflows and average growth rates of 2.5 and 4.3 percents respectively. The main reasons behind the poor investment levels are discussed below.

FDI, as Kandil (2013) argues, requires a "transparent business environment" and the recipient country should be well known for its effective governance and stable policy decisions. The institutional quality in Egypt is hence a main factor that drives off investors from the country (Rady, 2012). Egypt's Economic Freedom Score in 2012 was 57.9%, possibly due to the inability to protect property rights, stringent financial system, and decreased business freedom. Moreover, the availability of finance is not just a matter of interest rates but rather of connections with ministry officials as well (Dobronogov & Iqbal, 2006). In addition to corruption, the inefficiency of the financial sector remains an obstacle to growth. Rather than facilitating investment by increasing credit availability and savings allocation to investors, Egypt's banking system, which is largely dominated by the public sector, has been uncooperative in that respect, resulting in a high "shadow price of finance" (Dobronogov & Iqbal, 2006). Figure 6.0 proves that the domestic credit provided by Egypt's financial sector has only decreased since 1985. Egypt also suffers from low returns to capital investment, and this could be attributed to low productivity, poor incentives, scarce infrastructure, incompetent taxation, and high-anticipated expropriation risk due to corruption and political instability (Dobronogov & Iqbal, 2006).

While the reasons mentioned above strongly suggest that the poor performance of the financial sector is the main impediment to growth, research supports the view that it is in fact the country's lack of innovation, which depends on human capital, that is more critical (Enders, 2007). Egypt's investment on education has not only been of poor quality over the years but it has demonstrated a downward trend. The country suffers from a twofold problem of quantity and quality.

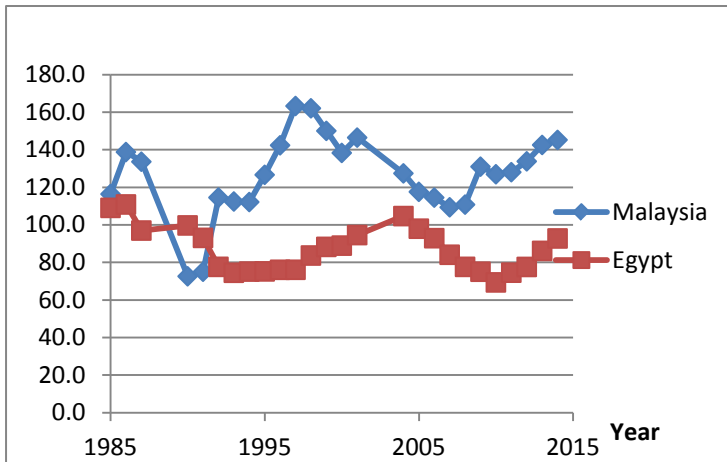


Figure 6: Domestic credit provided by financial sector, % of GDP. Data source: World Bank

According to Kandil (2013), if Egypt improves its "education, labor, and innovation indicators" by 5 percent, the economy could exceed efficiency-driven countries, because education has numerous positive spill-over effects on the economy. While returns to female education are higher, the gender gap persists to

exist with a 20% difference in enrolment ratios favouring males (Loveluck, 2012). Egypt's expenditure on health is even poorer than education, with an average expenditure of 6.3% of GDP since 1996. Again, this has solid externalities on the performance and productivity of labour, decreasing total output and hence income levels.

Conclusion: Final Comparative comments and Policy recommendation

The above analysis shows that Egypt and Malaysia operate at opposite ends of a multi-factorial economic spectrum, and this has been reflected on several indices and indicators, with the simplest one being the countries' income levels as shown in figure 7. The disparity in education and health expenditures is reflected on both countries' HDIs, where Malaysia's rank has improved by one place from 2008 to 2013, while Egypt's has deteriorated by four (UNDP, 2014). Moreover, the massive divergence in innovation, institutional quality and financial sectors is axiomatically reflected on both countries Global Competitiveness Indices (GCI), where Egypt ranks 116 out of 140 countries compared to Malaysia's 18th rank, the highest in Asian economies (WEF, 2015).

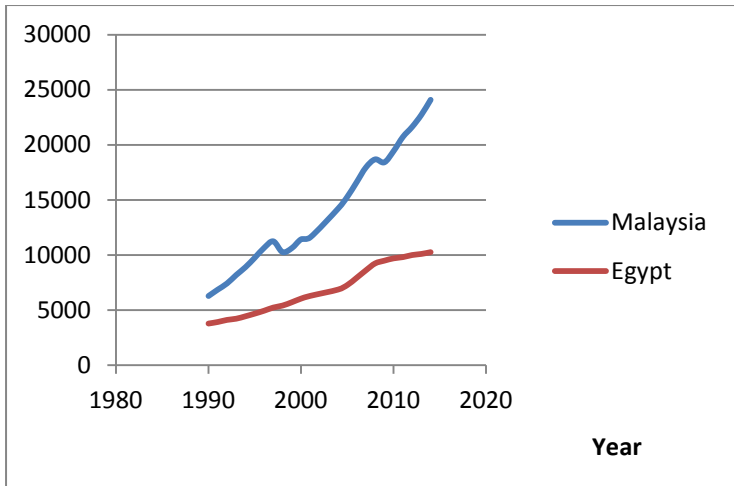


Figure 7: GNI/Capita, PPP (Current International \$). Data source: World Bank

Because this paper has highlighted the importance of human capital in facilitating the adaptation of technology and increasing the country's stock of knowledge, a policy recommendation directed towards improving the *quality* of education in Egypt, specifically in the primary level, is reasonable. Salah Jahin, the once cartoonist and poet, mocked the quality of education in Egypt through a series of caricatures about illiteracy and unqualified teachers (Hussein, 2014), and fifty years later, Egypt still suffers from the same problems of overcrowding, underpaid teachers, inadequate facilities and narrow-minded teaching techniques. According to CAPMAS, the average number of students in class in the primary level is 42.8. In addition to that, one in every five school buildings lack proper sanitation facilities and less than 10% of schools in 2012 met international standards for

quality education (UNICEF, n.d). The government must urgently allocate more of its budget to improving school facilities, buildings, and increase the number of classrooms to attain a better learning environment. Apart from that, one of the main obstacles to poor quality education lies in the hands of the teachers themselves. Teachers' low wages result in poor performance, and many often resort to private tutoring to supplement their salaries. Teacher's social status should hence be raised by incrementing their salaries as well as motivating them through promotions and performance-related incentives to improve their productivity and subsequently the quality of their teaching. Moreover, the government should devote funds to training courses and adopt teacher-evaluation programs that follow a framework of qualities, and teachers should be assessed regularly against this framework. Furthermore, policy-makers must work on reforming the centralized Egyptian curriculum and creativity-suppressing examination system that rewards memorization rather than the students' critical thinking ability. Textbook material should be enhanced to include problem solving and integrate ICT skills in the learning process. Training courses must focus on encouraging class discussions and examinations should incorporate open-ended questions rather than model answers. This prepares students for their future working environment and helps them better apply their acquired skills.

The aforementioned policies illustrate the emergence of the educational sector as a strong potential market for investment opportunities in training, technology, and

infrastructure, which is why officials must launch investment incentives to attract FDI into these specific sectors of the economy. This would aid the reform process without exacerbating Egypt's budget deficit position. With a strong political will, Egypt could improve its education and consequently bridge the gap between physical and human capital.

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