

HUMAN CAPITAL DEVELOPMENT IN
THAILAND: LESSON LEARN FROM SINGAPORE

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This paper examines Human Capital Development in Thailand with a focus on policy recommendations. I applied interdisciplinary approaches to craft strategies for Thailand. Using literature reviews as a main tool of information collection, I study education policy and reforms in Thailand and Singapore to identify the strengths and weaknesses of the current situation in Thailand. By looking into Singapore's success story, I summarize a few key points that Thailand can learn from Singapore. I additionally look at the current policy and make some revisions to it. I believe that going to college is very important for a country, therefore, I reviewed literature on why people go to college and also made policy suggestions based on it. First, SWOT/TOWS analysis, the government in Thailand should expand access to education in rural areas, utilize the government budget to provide alternative options (vocational school) to Thailand people, ensure that investment on education is efficient and used to strengthen the education system. Second, from looking at Singapore's success story, I found that Thailand can emphasize on long-term policies, decentralize the education system, establish standardized curriculum, focus on STEM education and develop a good information collection system. Third, from analysing the current policies, I found that policies can be innovated and thought from the perspective of stakeholders and use "incentive" and "disincentive" to influence the behaviors of the group of stakeholders (students, parents, teachers and principals. Additionally, the government may consider changing the evaluation method and think about how to collect data systematically. Last but not least, from encouraging people to go to college perspective, government need to lower the cost and increase the benefit of advanced education. This can involve creating more high-paying college graduate level jobs, providing more scholarships and making student to access into the loan information more widespread.

From my analysis and research. Thailand is not far from success. The reforms that Field of Study: Population Policy and Student's Signature

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| About Skillsfuture. SSG AboutSkillsFuture. (n.d.). Retrieved November 21, 2021, from https://www.skillsfuture.gov.sg/AboutSkillsFuture | 48 |
| Becker, G. (1962). Investment in Human Capital: A Theoretical Analysis. Journal of Political Economy, 70(5), 9–49. | 48 |
| Becker, G. (1993). The Economic Way of Looking at Behavior. Journal of Political Economy, 101(3), 385–409. | 48 |

- Becker, G., Hubbard, W., & Murphy, K. (2010). Explaining the Worldwide Boom in Higher Education of Women. *Journal of Human Capital*, 4(3), 203–241.....48
- Blaug, M. (1976). The Rate of Return on Investment in Education Thailand. *The Journal of Development Studies*, 12(2), 270–283.48
- Board, C. (2019). Trend in College Pricing. *Trending in Higher Education Series*. Published.48
- Carnevale, Canevale, P., Rose, Stephen, J., & Cheah, B. (2011). The College Payoff. Georgetown University Center on Education and Workforce. Published.48
- Child Research. (2015). Childresearch. Retrieved May 11, 2021, from <https://www.childresearch.net/projects/ecec/thailand.html>.....48
- Desired outcomes of Education. Base. (n.d.). Retrieved November 21, 2021, from <https://www.moe.gov.sg/education-in-sg/desired-outcomes>.....48
- Elizabeth, M., King, & Anne, H. (1993). *Women’s Education in Developing Countries: Barriers. Benefits and Policies*. Baltimore u.a: Johns Hopkins University. Published.48
- Fry, G. W., & Bi, H. (2013). The evolution of educational reform in Thailand: the Thailand education paradox. *Journal of Educational Administration*, 51(3), 290–319.48
- Google. (n.d.). Meet Google Drive – one place for all your files. Google. Retrieved November 21, 2021, from <https://drive.google.com/drive/u/1/folders/1TBk-jZKLWGPBEnKhR15dQ5TCgzi5CUE>.....48
- Hale, G. and Su, M. (2016). FDI effects on the labor market of host countries. Federal Reserve Bank of San Francisco Working Paper 2016-25.48
- Kwek, D., Teng, S. S., Lee, Y. J., & Chan, M. (2020). Policy and pedagogical reforms in Singapore: Taking stock, moving forward. *Asia Pacific Journal of Education*, 40(4), 425–432. <https://doi.org/10.1080/02188791.2020.1841430> 48
- Lynch, W. (2020). Strategic Planning to Actionable Items: From SWOT to TOWS Analysis. Retrieved from <https://warren2lynch.medium.com/from-swot-to-tows-analysis-55ac394064b7>.49
- Meara, E. R., Seth, R., & David, M. C. (2008). The Gap Gets Bigger: Changes in Mortality and Life Expectancy, by Education 1998 - 2000. *Health Affairs*, 27(2), 350–360.49
- M.E.T. (n.d.). Education Policies of Mr. Chinnaworn Boonyakiat. En.Moe.Go.Th. Retrieved July 19, 2021, from <http://www.en.moe.go.th/docs/8policies.pdf>....49

- M.E.T. (2017). Policies of Ministry of Education. En.Moe.Go.Th. Retrieved July 19, 2021, from <http://www.en.moe.go.th/enMoe2017/index.php/policy-and-plan/policies-of-ministry-of-education>.....49
- O.E.C.D. (2010). Singapore: Rapid Improvement followed by strong performance. Oecd.Org. Retrieved October 20, 2021, from <https://www.oecd.org/countries/singapore/46581101.pdf>.....49
- O.E.C.D. (2016). Education in Thailand: An OCED’s perspective. Oecd.Org. Retrieved June 19, 2021, from <https://www.oecd.org/publications/education-in-thailand-9789264259119-en.htm>.....49
- Patrinos, H. A. (2018). Strong link between education and earnings. World Bank Blogs. Published.49
- Pisa 2018 insights and interpretations final PDF - OECD. (n.d.). Retrieved November 21, 2021, from <https://www.oecd.org/pisa/PISA%202018%20Insights%20and%20Interpretations%20FINAL%20PDF.pdf>.49
- Resource, E. (2017). The National Scheme of Education B.E. 2560–2579. Edubright.Com. Retrieved July 20, 2021, from https://edubrights.com/resource/2018/11/27/the-national-scheme-of-education-b-e-2560-2579-2017-2036/?fbclid=IwAR0boPLSPoFB_UPGQDdnJ0YDz_z4fQOf-drAF1gx1lH6mgzLBwvMc0kAu7o.....49
- Sandra Black, E. (2002). Who Goes to College? Differential Enrollment by Race and Family Background. NBER Working Paper Series, 9310.....49
- Sasiwimon, W. P. (2020). Intergenerational Transmission of Human Capital: The Case of Thailand,. ERIA Discussion Paper Series, N(354).49
- Sasiwimon, W. P., & Mcnown, R. (2010). The Returns to Education in Thailand: A Pseudo-Panel Approach. World Development, 38(11), 1616–1625.49
- Sokatch, A. (2006). Peer Influences on the College-going Decisions of Low socioeconomic Status Urban Youth,. Education and Urban Society, 39(1), 128–146.49
- The World Bank (2020). Government Expenditure on Education, total of GDP in Thailand. From <https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS> .50
- Thomas, J. K. (1994). The Role of College Costs, Family Background and Returns to Education. Journal of Political Economy, 102(5), 878–911.50

| | |
|--|----|
| UNESCO. (2007). Country Basic Information. Ibe.Unesco.Org. Retrieved July 18, 2021, from http://www.ibe.unesco.org/fileadmin/user_upload/archive/Countries/WDE/2006/ASIA_and_the_PACIFIC/Singapore/Singapore.htm | 50 |
| United Nations Development Program. (2019). HDI: Singapore. Hdr.Undp.Org. Retrieved July 16, 2021, from http://hdr.undp.org/sites/default/files/Country-Profiles/SGP.pdf | 50 |
| United Nations Development Program. (2019). HDI: Thailand. Hdr.Undp.Org. Retrieved July 16, 2021, from http://www.hdr.undp.org/en/countries/profiles/THA | 50 |
| User, S. (2017, October 19). Education strategic plan. Home. Retrieved November 21, 2021, from http://www.en.moe.go.th/enMoe2017/index.php/policy-and-plan/education-strategic-plan | 50 |
| Yusuf, S. (2020). Building Human Capital: Lesson from Country Experience. How Singapore Does It. Published. | 50 |
| Vandeweyer, M., Espinoza, R., Reznikova, L., Lee, M., & Herabat, T. (2020, December 18). Thailand's education system and Skills Imbalances: Assessment and policy recommendations. Digital Object Identifier System. Retrieved November 21, 2021, from https://doi.org/10.1787/b79addb6-en | 50 |
| World Bank Document - documents1.worldbank.org. (n.d.). Retrieved November 21, 2021, from https://documents1.worldbank.org/curated/en/683311593415205230/pdf/Thailand-Programme-for-International-Student-Assessment-PISA-2018-Country-Report.pdf | 50 |
| World Bank Group. (2020, December 8). More inclusive and better investments in education to improve learning outcomes in Thailand. World Bank. Retrieved November 21, 2021, from https://www.worldbank.org/en/news/press-release/2020/12/09/world-bank-more-inclusive-and-better-investments-in-education-to-improve-learning-outcomes-in-thailand | 50 |
| อัตราค่าเล่าเรียนนิสิตชาวไทย - สำนักงานการทะเบียน จุฬาลงกรณ์มหาวิทยาลัย. (n.d.). Retrieved November 20, 2021, from https://www.reg.chula.ac.th/fee1.html | 50 |
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Chapter 1 Introduction

1.1 and Statement of Problem

Education is always thought to be the most important driver for economic prosperity. In fact, some famous economists emphasize on how human capital fosters economic growth (Becker G. , 1962). The topic of education is very broad; it includes many elements which can be grouped into inputs, processes, and outputs.

The input of education is government spending on education, technology, investment in schools, labs, etc. Education processes include the steps that convert inputs into outputs which can include the quality of teacher, quality of technology and resources, quality of the curriculum, and evaluation or test system. Outputs of education are human capital.

According to United Nations Development Programs, “Human Capital” consists of the knowledge, skills, and health that people invest in and accumulate throughout their lives, enabling them to realize their potential as productive members of society (The World Bank, 2018). Because Human Capital is thought to be knowledgeable, skillful, and healthy, they can increase the domestic products of a country. There are a lot of attempts to measure the quality of human capital. One of them is the commonly cited Human Development Index (HDI) by the United Nations Development Program (UNDP, 2020). The index factored in health, knowledge and living standard to form an index ranging from 0 to 1. A high HDI index indicates high quality of human resources in the country.

While Thailand's HDI is currently evaluated at 0.77, Singapore, the neighboring country, has HDI of 0.94. With good human capital, Singapore was able to develop very quickly in the early 20th century and became one of the top economies in the world. However, correlation does not mean causation. The fact that Singapore has high HDI (good human capital) might be not the whole reason why Singapore is a rich economy. Yet, I believes that education at least takes some part in developing the nation's economy.

Improving the education system, quality and enrollment is always a top priority in the Thai government's agenda. The government has made a lot of reforms in the past starting from 1994. There have been a lot of progress and achievements in the past centuries, yet Thailand still encountered some problems, particularly equality

of access to and quality of education. Therefore, there is a gap that Thailand can learn to improve in order to catch up with Singapore.

1.2 Motivations

This independent research aims to review Thailand education policy to identify its strengths and weaknesses. A deep understanding of issues is very useful in finding the right solutions to help the Thai government to successfully achieve its goal. Learning from peers is very common. This paper will look at Singapore which is believed to be the leading country in Association of Southeast Asian Nations (ASEAN) in terms of high quality of human resources.

Developing better human capital means encouraging Thai people to go to college and graduate with higher degrees or receive professional/technical training in specific areas. To design a policy to make more people go to college, it is important to first understand why people want to go to college. Economists always like to look at it from the cost and benefit perspective, but in addition to this, own behaviors, society expectations, parents' encouragement and pressure, and peer influence also play an important role in shaping one's decisions.

There are many reasons why I want to study the Thai education system and human capital both in Thailand and Singapore. Also, I want to encourage a greater number of Thai students to go to college. Firstly, as I stress in the Introduction, it is believed that education plays a significant role in developing the economy; although other factors (quality of governance, monetary and fiscal policies, foreign direct investment, foreign government and others are equally important). Second, human capital is the most important output of education, and therefore should be examined carefully. By observing the weaknesses of Thai education policy, I can offer possibilities of how education policies can be adjusted. Last but not least, I want to empathize with the importance of going to college both in the country and abroad. China, for example, has been supporting Chinese students overseas to study abroad and many of the PhD degree seekers in the United States are Chinese. This may explain why the Chinese economy developed so much in the last decade.

1.3 Research Objectives

It is believed that there can be some policy improvement that the Thai government can consider for the better outcome on human capital development. Therefore, the objectives of the study is as follows:

1. Understand the history of education reforms in Thailand, the current policies and the achievement so far.
2. Understand Singaporean human capital and education system to determine what are the key factors contributing to its success and what Thailand can learn from.
3. Understand the literature on why people go to college from economics and behavioral perspective in theory and search for empirical evidence in Thailand.
4. Propose innovations (improvement) in the current Thailand's education policy and evaluation process.
5. Recommend policies adjustment by using a different approach in order to improve the current condition of human capital development in Thailand.

1.4 Research Questions

Given the motivations and objectives, this paper will answer the following questions:

1. What are the strengths and weaknesses of Thailand's current education policy using SWOT analysis?
2. What can the Thai government do to improve its current policy and evaluation process based on Singapore's experience and academic literature?
3. What should be some improvement areas of Thailand's current policy design and evaluation?
4. How can I develop the Thai human capital by making more Thai people go to college?

Chapter 2 Literature Review

2.1 On Human Capital Index

The product of education policy is “human capital” and one universally accepted measurement is the Human Development Index (HDI) produced by the United Nations Development Program (UNDP). The index is built and measured the degree of human development by using three dimensions, namely, health, knowledge (education) and living standard. The index ranges from 0 to 1 which 0 indicates poor quality of human resource and 1 represents high quality of human resource. The index is built by taking the average of three indices mentioned above.

For the health index, it is measured based on life expectancy. A nation with strong human resources should have a population who can work for a long period of time. If the human resource cannot live long or get sick often, the products they produce will be limited, and this reflects the quality of human capital of a country. For the education index, it looks at two indicators; expected years of schooling and mean years of schooling. The longer the years students can attend school, holding all else equal, the more knowledgeable and more productive the learners will become when they go to work. Education index will be high when the expected years of schooling and means year of schooling of the nation is high.

For standard of living, UNDP assumes that when people live well, they are going to be productive. Standard of living is measured by Gross National Income per capita. In sum, Human Development Index (HDI) is finally calculated by taking the average of these three indices.

2.2 On the Economics perspective of going to the college

Classical economic theory suggests that an individual will only go to college if the benefits of going outweigh the cost. While these theories provide a conceptual framework to study college-going decisions, it excludes the identity of a person which can matter a great deal. The decision to attend college is much more complicated. The above analysis heavily depends on an assumption that individuals know and can calculate their payoffs, opportunity costs, and expected future income. Socioeconomic

status, gender, race, parental education, access to information, and finance were not observed in classical economics theories, but are part of modern economics.

2.2.1 Cost and Benefits Analysis

Economics Nobel Literates Gary Becker contributes most to the study of human capital in his human capital theory (Becker, 1962). He took a holistic approach and studied human capital from both micro- and macroeconomics perspectives. One of his most significant contributions is how he critically defines education as an investment and brought the concept of internal rate of return (IRR) and net present value analysis into the study of education. In this study, the focus is on comparing the costs and benefits of college enrollment decisions.

In terms of the benefits of going to college, (Becker et al., 2010) listed four benefits of going to college including but not limited to an increase in earnings, longer life expectancy, higher chance of getting married, and spillover benefits on children.

(1) Earnings

First of all, education and earnings are connected through productivity. Schooling enhances one's capability and productivity by not only equipping them with knowledge but also through teamwork and multiple aspects of technology. College graduates are equipped with skills that the recruiters prioritize and are willing to pay a high wage for. Therefore, an additional year of schooling is associated with an increase in earnings due to productivity growth. The theory is known as the human capital hypothesis (Patrinos, 2018).

Another theory that explains why attending college increases expected earnings is the screening hypothesis. Employers prefer to hire people with higher qualifications to reduce the risk of hiring someone with low capability (Patrinos, 2018). The cost of training employees can be very high. As a result, a college degree acts as a signal to employers who want to screen for the best of the best.

Research conducted at Georgetown University's Center on Education and Workforce found that a college education in the US is worth USD 2.2 million on average (Carnevale et al., 2011). The number is calculated on a Net Present Value (NPV) basis by discounting all the cost and future expected income to today's dollars.

The difference between a high school diploma and a college degree is about USD 0.9 million. Despite the difference, additional years of schooling are associated with higher NPV. (Carnevale et al., 2011) also found that only 14.3 percent of high school graduates earn more than the median income of bachelor graduates whereas 61 percent of master's graduates make more money than the 50 percentile of all undergraduate graduates. What this is showing is that, if people want higher income, they would go to college with an expectation of making more money in the future.

Scholars in Thailand also did similar research to find out the return of going to college. (Sasiwimon & Mcnown, 2010) used pseudo-panel (repeated cross section panel data) to estimate the return on education in Thailand. They used data from the National Labor Survey of workers. In their research, they found that the average return to education at college level for Thais is 14 percent to 16 percent.

(2) Life Expectancy

Secondly, regarding life expectancy, in research from Becker et al. (2010) found a positive relationship between education and life expectancy. People with a college education tend to live longer than high school graduates due to several factors. First, the nature of the job. High school graduates tend to work in more physically-intensive jobs. Some of these jobs are dangerous and could be life threatening. Second, less educated people are more likely to use illegal drugs and commit crimes which may contribute to their shorter life span. Third, at college, students receive training in hygiene, modern medicines and how to live healthily. People in poor countries (for example African countries) have shorter life expectancy compared to those who lived in developed countries with better access to education (for example Singapore, Japan, US, etc). Research from Meara et al. (2008) found that holding all else equal, a more educated white man can live 3.6 years longer than less educated white men; for women the difference is 1.3 years.

There was no similar type of empirical finding for Thailand which opened the door for future researchers. However, as noted in the previous section when I discuss the Human Development Index, I can see that as the education index continues to increase, so does life expectancy. However, I understand that correlation does not

mean causation. Therefore, further research to find the relationship between life expectancy and education would fill in this gap of knowledge.

Despite this, I argue that life expectancy would not be a decision criterion for college enrollment. They may have interdependent causal effects with each other, but life expectancy may not be a factor people are concerned about when deciding whether to go to college or not. Second, I argue that there might be an endogeneity issue in measuring the impact of education on life expectancy. As discussed in the previous section, college graduates can make more money, which can also mean they have more financial resources for medical care and which in turn results in longer lives.

(3) Marriage

Thirdly, in terms of marriage, going to school gives students the opportunity to be exposed to and interact with more people and equips them with social skills which make them more attractive when searching for partners (Becker et al., 2010) found in his study that the percentage of people having bachelor's degrees who are married is higher than the share among those with only high school diplomas. There are a few patterns worth noting from his research. Firstly, men are more likely to get married than women at all levels of education. Secondly, the percentage of people getting married in 2007 is significantly lower than 1967 and 1987 for all degree holders. Thirdly, the difference in the proportion of people who are married with and without a college degree is largest in 2007. This indicates that as time goes by, people without college degrees find it more difficult to get married. Only about 57 percent of men and 62 percent of women with high school diplomas got married in 2007 compared to about 70 percent and 75 percent of those who graduated from college. Lastly, men with advanced degrees are more likely to get married than men with just undergraduate degrees, but when women stay longer in school, the proportion who get married actually becomes smaller.

In terms of marriage, there was no empirical evidence in this matter for Thailand. However, Thailand has recently suffered from a low fertility rate due to adults getting married late. The government even ran a campaign to create opportunities for Thai single men and women. This does imply that the more chances men and women get to know each other, the more likelihood they can meet their potential half. College is a good place for adults to meet each other. Therefore, it can

make sense for men and women who want to increase their chances of getting married to go to college.

Correlation, however, does not mean causation. It is uncertain whether enrolling in college helps people find life partners or it is a consequence of high income due to holding a college degree. I am also very doubtful if a desire to get married was a strong determinant of college enrollment given the fact that students make the college decision at the (young) age of 18.

(4) Spillover Effects on Households

Finally, it concerns with spillover effects on household. The economists always like to talk about externalities. Economic activities and decisions are interrelated; they can affect each other directly and indirectly, positive and negatively. Researchers found that children whose parents hold bachelor's degrees are also highly likely to attend college (Becker et al., 2010)

When parents are highly educated, the children have good access to information about colleges. They also typically have the financial capability to fund their children's pursuit of tertiary education. Parents are also role models to their children. One is more likely to become a doctor if his (or her) father is also a doctor.

A recent study by (Sasiwimin, 2020) examining the intergenerational transmission of human capital in Thailand found that parental education affects children's education positively, using the Thailand Labor Force Survey of 1985 to 2017. This shows that when parents receive higher education, they are more likely to influence their children to get a good education too. As a result, it is expected that Thai people who think for their next generation will be more likely to go to school.

2.1.2 Cost of Going to College

On the contrary, there is also a cost of going to college. Now, I need to consider all the factors that go into the first half of the equation of calculating NPV. It can be thought of as direct cost, indirect cost, opportunity cost, and sunk cost. In this study, I will group them into traditional and non-traditional costs.

(1) Traditional Cost

Regarding traditional cost, attending college requires a lot of monetary commitment. The direct cost of going to college includes tuition, accommodations (room and board), textbooks and other study related expenses. In research from Board (2019) found that the average published tuition of private four-year institutions is USD 36,880 which is higher than public four-year institutions accounting for about USD 16,000. However, there are also financial supports, education loans and grants, as well as scholarships available for people on the basis of needs and merits. As a result, the direct costs of going to college vary based on a student's academic performance and financial needs. Their identities also matter, public universities charge state residents and non-residents differently. I will discuss how identity affects the college enrollment decision later in the study.

Besides direct costs, classical/neoclassical economists also talk about opportunity cost or the foregone income that one would have earned if they went into the labor market rather than attending college. The concept of opportunity cost is very difficult to measure, in fact, I cannot measure what does not happen. Some people hypothesize that if the 4-year college tuition is spent on investing in a portfolio with stable return of about 6-7 percent for 40 years, the investment can reach a million dollars which is equivalent to the return of attending college.

During economic recessions, college enrollment is often high because the opportunity cost (foregone salary from working) is low and the benefits of expected earnings after graduation is high. On the other hand, there have been a lot of developments in the labor market today that can potentially change the way students think about the opportunity cost of going to college. There are now a lot of jobs that do not require a college degree but at the same time pay really well. A truck driver in the US can earn as much as USD 100,000 annually – a lot higher than college graduates. Some dangerous and physically labor-intensive jobs are compensated with high hourly wages as well.

Another increasing trend is that high-tech companies like Google and EY are accepting employees without college degrees. They prefer to do in-house training in exchange for the absence of college education. Online learning platforms like

LinkedIn Learning, EdX, Coursera and YouTube have also gone viral. Individuals now can easily become freelancers making money by making YouTube videos, selling products and services on the internet (E-Commerce) and doing day-trade online. These trends contribute to making the opportunity cost of going to college higher.

When thinking about both direct and indirect costs, it is important to note that the same dollar value means differently to different people. One thousand dollars for a high-income family is different from a thousand dollars for a low-income family. Consequently, the opportunity cost of investing the money in education also varies. There is also empirical research about direct and indirect cost of attending college conducted using Thailand context (Blaug, 1976) summarizes the private direct cost of going to college as fees, books, and transportation less scholarship. The indirect cost would be the earnings foregone from going to college.

Table 1: Cost of Going to School in Thailand

| | <i>Private Costs</i> | <i>Social Costs</i> |
|-----------------------|---|---|
| Direct costs | Fees Books Extra travel (-) Scholarships | Teachers' salaries Administrative salaries Imputed rent on buildings Imputed rent on equipment Materials used up Books, extra travel |
| Indirect costs | Earnings foregone | Output lost as estimated by earnings foregone |

จุฬาลงกรณ์มหาวิทยาลัย

PRIVATE AND SOCIAL DIRECT COSTS PER STUDENT PER YEAR, BY LEVELS AND TYPES OF EDUCATION, 1969 (BAHTS)

| <i>Levels</i> | <i>Private Direct Costs</i> | | | <i>Social Private Costs</i> | | |
|---------------------------------------|-----------------------------|----------------------|--------------|-----------------------------|------------------------|--------------|
| | <i>Fees</i> | <i>Books, Travel</i> | <i>Total</i> | <i>Current Costs</i> | <i>Capital Charges</i> | <i>Total</i> |
| Elementary | 0 | 300 | 300 | 532 | 142 | 674 |
| Public and Private Academic Secondary | 450 | 750 | 1,200 | 915 | 522 | 1,437 |
| Private Vocational Secondary | 2,200 | 750 | 2,950 | 1,893 | 658 | 2,551 |
| Public Vocational Secondary | 220 | 750 | 970 | 2,768 | 1,584 | 4,352 |
| Teacher Training | 220 | 1,200 | 1,420 | 2,253 | 1,410 | 3,663 |

Source: (Blaug, 1976)

In terms of money value, I found that the total private cost for attending elementary school in 1969 was 300 Baht, and 1200 Baht for secondary school. However, the data was quite old. Then, I applied an average inflation of 4 percent (time series inflation rate from World Bank) compounded for 52 periods, the private direct cost of attending elementary school is about 2,000 Baht and attending secondary school is about 9,200 Baht per year in the current time. However, it is also important to note that the education is provided free for Thai citizens according to the education policy mentioned earlier.

College tuition is one of the major expenses for university students. For public universities, for example, Chulalongkorn University, undergraduate tuition on average is 20,000 THB , and graduate tuition on average is 30,000 THB (Chulalongkorn University, 2021).

(2) Non-traditional Cost

Regarding non-traditional cost, I can analyze the cost of going to college from a perspective of time and effort that one has to spend from their first day until they graduate. Smart people are going to have lower costs than people who need to spend double the time and effort to understand the same concept. To measure it, I split the costs into cognitive skills and non-cognitive skills. Cognitive skills are factors such as test score, IQ, grade, and GPA, etc. While non-cognitive skills have to do with motivation, confidence, critical thinking ability, etc. People with good cognitive and non-cognitive skills will definitely see the benefits exceed the costs as they are confident that they can graduate by using an optimal amount of resources.

The opposite is true for people with low cognitive and non-cognitive skills. The cost burden of attending college is high, and when doing NPV analysis, the investment does not seem to have a positive return, so they may choose not to go to college. Students with different race, gender, and family backgrounds receive different training which definitely have impactful contributions to the level of their cognitive and non-cognitive skills.

Earnings was just one part of the story, even though women earn less than men at all levels of education, (Becker et al., 2010) found that women are better at studying than men, indicating that this non-traditional cost is lower for women. As a result, there is a possibility that the investments of education made by women have higher NPV resulting in a higher college enrollment rate.

From Sasiwimon and Mcnown (2010) who examined the return of education in Thailand found that women have higher return than men holding all else equal. However, they do not discuss the reason nor its implication in their paper.

2.3 On Behavioral Perspective of going to college

After understanding the costs and benefits of attending college, economists can put everything in the same equation, discount it, and make a judgement based on whether the benefits exceed the costs, or the other way around. However, in real life, people take many other considerations into account. One important assumption may not always hold true is that people make rational choices to maximize their utility. Their choices, however, were constrained by income, time, imperfect memory and calculating capabilities, and the opportunities available (Becker, 1993). I will look at college enrollment from behavioral economics perspective mainly focusing on starting points as following:

(1) Parental Education

Children who were born in a family in which both the father and mother are college graduates are more likely to also pursue a bachelor's degree (Becker, 1993), (Sandra Black, 2002), (Sasiwimon & Mcnown, 2010) found that Black youths whose parents were both college graduates had an 85% chance of entering college (more than twice the probability of a youth with high school dropouts parents). Holding all else constant, parental education increases access to information which can impact an individual's decision. Policymakers and educators are well aware of this, and therefore, they design incentives and scholarships to encourage those who are first-generation college students to pursue higher education hoping that it can have positive externalities in their future households. I had discussed this in terms of Thailand in the previous section as well.

(2) Access to information and calculation capability

Classical economists assume that given all the information about costs and benefits, decision makers can process those numbers to make rational decisions. However, I need to understand the brain of 18 years old high school graduates. I argue that some of them do not have access to complete information about college, major

choices and career opportunities with and without an advanced degree when they just finished high school. In fact, some people, for example, those living in Africa where a university degree is not common, might not at all know what college is.

(3) Race, Gender, Culture and Peer influence

Race matters a great deal when it comes to college enrollment. Holding all else equal, black people living in low-income households enroll in college more than their white counterparts (Thomas, 1994). This may be because their opportunity cost is lower and their marginal benefits from enrolling additional years of education is higher than the whites. I need to perform our analysis at the margin. Four extra years of education benefit people of different races and colors uniquely. The impact of race on education choice is also interrelated with the environment they live in and the peers around them. Peer influence is another important factor. In research from Sokatch (2006) found that the probability of 4-year college attendance increases more than 10 times for students who report that most or all of their friends plan to go to college and want them to go to college. Access to financing also differs by race and which can limit one's access to college education.

Elizabeth et al. (1993) discovered that parents in some cultures prefer to send their sons to school because they expect their sons to stay and take care of them. Daughters often get married and move away. Some religions (eg: in Malaysia and Indonesia) restricted women from going to school.

Thailand is a society where parents have a strong influence on children's decisions, especially going to school. Some conservative parents prefer sending their sons to go to school rather than their daughters. Daughters, especially those in the countryside, are expected to stay at home and take care of the housework. Especially, some parents see no point in sending their daughters to college because they are going to get married and stay at home looking after their children anyway.

Chapter 3 Data and Methodology

3.1 Data and Method

This study applies interdisciplinary approaches to identify what Thailand can do better in order to achieve stronger human capital. Much of the analysis of this paper will be qualitative. Document research and secondary data analysis will be the main tool used in this study. I will consult with different literatures ranging from government official documents, new releases, academic articles and journals, international organizations' reports (for example, the World Bank, UNDP, ADB), and book chapters. Document research will be performed holistically, from both theoretical and empirical perspectives.

Empirical data analysis will also be performed using secondary data from the United Nations Development Program, mainly focusing on the trend of school/college enrollment overtime, and Human Development Index (HDI).

I employ four different approaches to recommend policies to the Thai government. First, I look at Thailand isolated by itself. By evaluating its strengths, weaknesses, opportunity and threats, I will come up with four distinct groups of strategies to utilize the strengths and opportunity and bearing in mind weakness and threat in order to maximize impact of government's action.

Second, after reviewing Singapore's success story, I will make some comments on what I can learn from this Asian Tiger country.

Third, it is also very crucial to critically analyze the current policy being executed in the country. In particular, I added innovation to the design and evaluation process in order to come up with new strategies.

Fourth, I conducted literature reviews on economics and behavioral aspects of why people go to school, and consolidated information together in order to generate policies aiming to improve college enrollment - as I strongly believe, the wealth of the nation lies in its human resources, especially college graduates.

3.2 Terminology

Human capital is often referred to as skills, knowledge and experience accumulated by the population in a nation. Human Development Index (HDI) is an index ranging from 0 to 1 produced by the United Nations Development Program (UNDP) that aims to measure the quality of human capital. It comprises health, living standard and education dimensions. More details are discussed in sections.



Chapter 4 Findings and Discussions

4.1 On Thailand Education

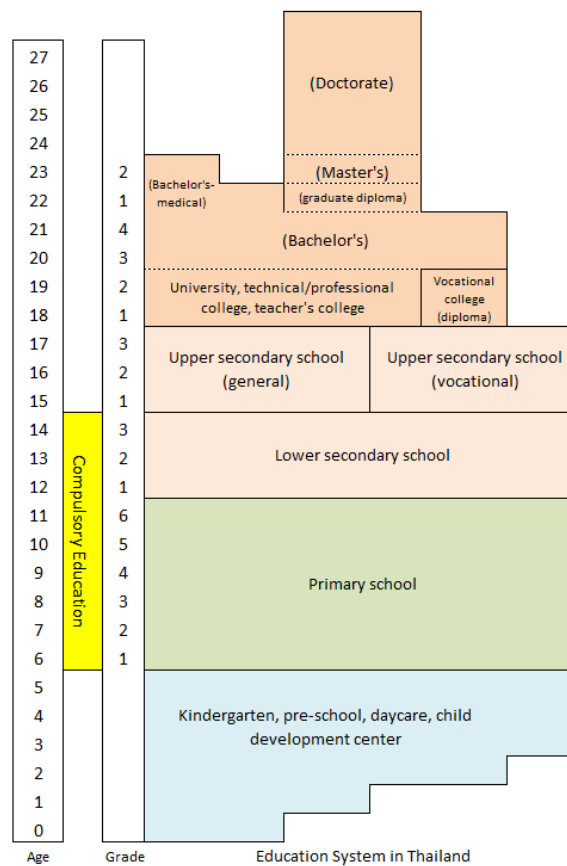
Over the years, Thailand has expanded free education in both length and scope. Not only do Thai students can enjoy more years of free education, but a larger number of Thai students in many regions also have better access to schooling.

Thai education philosophies of the national education plan mostly emphasize the doctrine of his majesty King Rama IX. The principle is self-sufficiency. First, it focuses on making populations intelligent, good, happy, and proud to be Thai. Additionally, it also focuses on making Thai people have faith in democracy, hate corruption, and fight against the purchase of voting rights. Second, it emphasizes on developing teachers, faculty, and people who are directly involved with education quality. Third, it focuses on social development and the environment to make people in the society become more moral, ethical and promote lifelong learning. Fourth, it develops human resources in accordance with the demand in the labor market. Fifth, it aims to create more joint ventures between the private sector and local government agencies such as religious institutions, family institutions, etc. Sixth, it wants to make Thailand ready to move forward to an ASEAN community by establish TQF (Thai Qualifications Framework) (Sasiwimon & Mcnown, 2010)

(1) Education Structure

Thailand's education system is divided into general education, vocational training and special education. General education is the most important part of the system. It includes pre-primary, primary, lower secondary and upper secondary. Students start going to school from the age of six and get free education for nine years.

Going to college, however, is not free, but some universities offer scholarships based on merit and need. There are also students who do not go to college, and prefer to go to vocational training school and become a technician, for example, a car repairer.

Figure 1: Education Structure in Thailand

Source: (Child Research, 2015)

Figure 1 shows the typical age and level and form of education in Thailand. The typical age for Thai children to go to school is 6 years old. The Thai government requires students to attend school for at least 9 years (until lower secondary) – the typical age for this level of education is 15 years old. After that, students can make an important decision – either to continue with general education (for another 3 years to finish high school which is free), or go to secondary vocational school to acquire useful skills for their professional career. At the age of 18, high school graduates can choose to pursue advanced education in university starting from Bachelor (four years), Masters (one-two years), and PhD (additional three years minimum). Besides general education and vocational training, two other forms of education are non-formal education and special education, with reference to Figure 1. There are some private

international schools that provide international standard education, and there is also special education for minority people who need help. Additionally, the temple or pagoda is also a place for education teaching people about Buddhism, and Pali.

(2) Education Reforms

In the traditional era prior to the reform periods, the education system in Thailand mainly happens in the pagoda or temple. The role of Sangha (Buddhist order of monks) is the teacher to teach young men both Thai and Pali. Over the years, Thailand has undergone a lot of education policy reforms. The leader of the country has been thinking of this issue critically and revised their policy to reflect the society's need, the changes of population, international trend, and their perspective about the future of Thailand.

There are a total of 3 phases of development before the year 2010 in terms of education policy. Phase 1 was from 1868 to 1910 led by King Chulalongkorn. The king has a good vision for the country. He foresees the importance of globalization and incorporates "foreign" elements in Thailand education in order to be comparable with other countries. Phase 2 was from 1973 to 1980 led by students aiming to make education more "democratic". In this phase, students ran to protest and demand positive changes to former reforms and tried to fill in the gap that students view as "lacking" and "important". Phase 3 was a result of the 1997 financial crisis. The crisis has hit Thailand badly and the country had no choice but to transform its policy in order to "save" the nation. The current characteristics of human capital and education policy in Thailand is a result of these three reforms. After the year 2010, Thailand also underwent some changes in education policy which is not included in this section, but in the section explaining the current situation.

Phase 1: The Year 1868-1910, reform of King Chulalongkorn (King Rama V)

King Chulalongkorn set a good steppingstone for the modernization of the Thai education system. He understood that human resource development was very critical to a nation's economic success and prosperity, and Thailand has to innovate its education system and teaching instructions in order not to stay behind other

international countries. His reforms were assisted by his brother, Prince Damrong Rajanuphap who served as Director of Public Instruction from the year 1880 to 1892.

King Chulalongkorn developed the early phase of the modernization of Thai education by adding bilingual education into Thai schools. The first schools (Suan Kularb) included half day of education in English in addition to the traditional instruction in Thai. His reform was mainly focused on making the Thai education's system more comparable to international society (Fry & Bi, 2013)

However, his reform was criticized for 2 issues. Firstly, not everyone has equal access to education. While 71 percent of school-age students in Chantaburi Province had access to education, only 13% in Udon did (Fry & Bi, 2013). Secondly, his reform made education in Thailand over-centralized and over-standardized which failed to allow local and regional schools to make changes necessary for their conditions.

Phase 2: The Year 1973-1980, the student “revolution” and its aftermath

In 1932, Thailand changed from absolute monarchy to constitutional monarchy and stressed the importance of “democracy”. The country later became dominated by the military. In 1973, a group of students (approximately 2,000 on October 9th, and later 80,000 people during the situation) gathered to demand for the resignation of the current prime minister and a more democratic Thailand. The protest went into violence; but ended with a positive result. King Bhumibol Adulyadej and other three military leaders agreed to step down and assigned Professor Sanya Thammasakdi to become the prime minister of Thailand (Fry & Bi, 2013).

Following his administration, a lot of reforms were made in Thailand's education system. First, there is a merger in the education administrative institutions. The administration prior to this is a mess. In Thailand, the Ministry of Interior is responsible for primary education, Ministry of Education is responsible for secondary education, and Ministry of University Affair is responsible for higher education. This reform combines those administrations together and creates a responsible institution to take charge of education, so that it seems more efficient (Fry & Bi, 2013).

Second, it addressed the problem of equity and equality of access to education in the system. Third, it changed the curriculum to be more open and relevant. Because

of the military control, a few sensitive topics and areas are restricted in Thai education. Fourth, the reform emphasizes with the importance of policy research and data collection for further research concerning Thai education (Fry & Bi, 2013).

Phase 3: The Year 1997-2010 ,crisis as opportunity.

The year 1997 was a tough year for many Asian countries including Thailand. The Asia Financial Crisis hit Thailand hard on its economics, and therefore a reform is needed to revive its economics. Thailand initiated a reform by picking and choosing what is suitable for Thailand from the success stories of countries such as Australia, New Zealand, France and China. It is one of the key reforms in Thailand's history.

The phase-3 reform focuses on 15 elements:

1. Provision of 12 years of free education (education for all) and 9 years of compulsory education.
2. Establishment of administrative unity and re-engineering of the structure of the Ministry of Education.
3. Reform higher education, providing public universities with autonomy in terms of budget and governance resources (currently, 15 out of 92 public universities are autonomous).
4. Decentralization of education in the local area.
5. Emphasis on the utilization of local wisdom and knowledge.
6. Promotion of new student and learner-centered models of pedagogy emphasizing active learning and less rote learning.
7. Emphasis on a holistic approach to reform; whole system; whole school; whole student, need to develop both left and right sides of the brain, heart and full body.
8. Promotion of national, master, and lead teachers to grow the network of education innovators and supporters
9. Approval of the system for issuing teacher licenses, the transformation of Teachers' Council into the Teacher Profession Council.
10. Establishment of the Office for National Education Standard and Quality Assessment (ONESQA).
11. Promotion of Innovative teacher learning with an emphasis on site-based training.

12. Greater and appropriate utilization of ICT to promote student and teacher learning.
13. Emphasis on life-long learning.
14. Emphasis on diversity of learning approaches and learning sources (all for education).
15. Creation of a special office (Office of Education Reform) to foster implementation of the reform and preparation of key legislation during the initial three years (Sirnoi, 2003).

3) Current policy

Thailand has made a lot of education policy reforms in order to improve the quality of education. The goal is to raise the standard of education and the quality of human resources compared to other developed countries such as Singapore, Japan, United States, etc. With that, Thailand government is inspired to achieve two goals:

1. **Learner Aspirations in 3Rs and 8Cs.** It is important to help learners developed on Readings, Writing and Arithmetic (3Rs) and Critical Thinking and Problem Solving, Creativity and Innovation, Cross-Cultural Understanding, Collaboration, Team and Leadership, Communications, Information and Media Literacy, Computing and ICT Literacy, Career and Learning Skills, and Compassion (Resource, 2017).
2. **5 Aspirations of provision of education access through 53 indicators,** including being able to access high quality and standardization education; equal opportunity between different backgrounds; improve the quality of educational system; efficient education administration; and a dynamic education system that responds to global changes (Resource, 2017).

In the agenda of Mr. Chinnaworn Boonyakia, Minister of Education of Thailand, education reforms mentioned that Thailand aims to provide quality, student-centered, life-long learning opportunities to all students (Ministry of Education Thailand , n.d) . On that note, according to the official website of the Ministry of Education updated on 2017 (still reflects the same information as of 2021) the policy focused point emphasized (1) tighten the budget, (2) create opportunity, increase efficiency, reduce inequality with (i) digital transformation, (ii) strengthen teachers' skills, especially English skills, and (iii) develop vocation powers.

To achieve the policy goals, the Ministry of Education (2017) also identified six strategic plans listed on their website to improve Thai's education system and human capital including but not limited to:

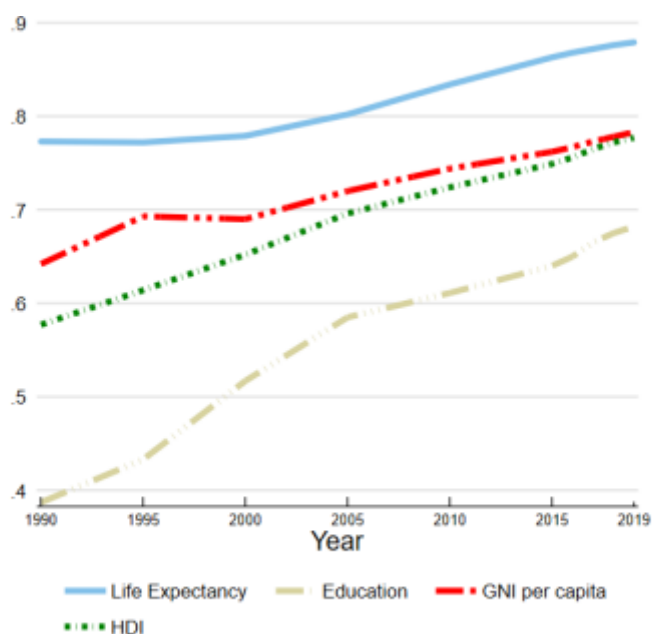
1. Manage education well for social and national security
2. Produce manpower and develop research and innovation to make Thailand more competitive
3. Improve capability for people of all ages and create a life-long learning society
4. Build more opportunities for learners and improve education equality
5. Improve education quality and make the learning environment more friendly
6. Improve learner's performance

In other words, these policies aim to achieve higher enrollment rate, better provision of quality, competitive and comparable curriculum with other countries. A report by (O.E.C.D, 2016) looked closely at the input, access, process, efficiency and student outcome in Thailand and identify problems in the current policies which are:

1. The aggregate budget spent on education is high compared to other countries; yet the result is not significant.
2. Although overall access to education has improved, the marginalized students living in rural areas still find it difficult to go to school.
3. There are still shortages of teachers for some subjects, particularly Science and Mathematics.
4. The performance gap is huge compared to other countries. Thailand has very few top performers, but a lot of low performers.

Thailand grew HDI index from 0.6 in 1990 to 0.7 in 2019. Currently, Thailand is ranked 79th in terms of good quality of human resources. This means Thailand is performing above about 100 other countries. Only 78 countries in the world are doing better than Thailand.

Figure 2: Trend of Thailand's HDI Component Indices, Year 1990-2019



Sources: United Nations Development Program(2019a)

Looking at figure 2 above, Thailand HDI has been growing steadily. All three indices are growing substantially but at a different pattern. The most important contributor is life expectancy. The life expectancy (health index) is growing slowly before 2000, but the index is growing significantly after 2000. This implies that Thai people live longer, which might be due to the improvement of standard of living and healthcare system. GNI per capita is growing at an interesting trend. Between 1995 to 2000, there was a constant growth of income due to the 1997 Financial Crisis and its aftermath effect. Yet, it spiked back again in the twenty-first century. Education index shows the largest improvement over time, it grows by almost 0.3 point in the given period, starting from 0.4 to 0.7. This shows that the education policy may be effective in improving the current condition of education in Thailand. This can also be due to the three phases of reforms mentioned above. Thailand has benefited from how the government tries to improve education quality.

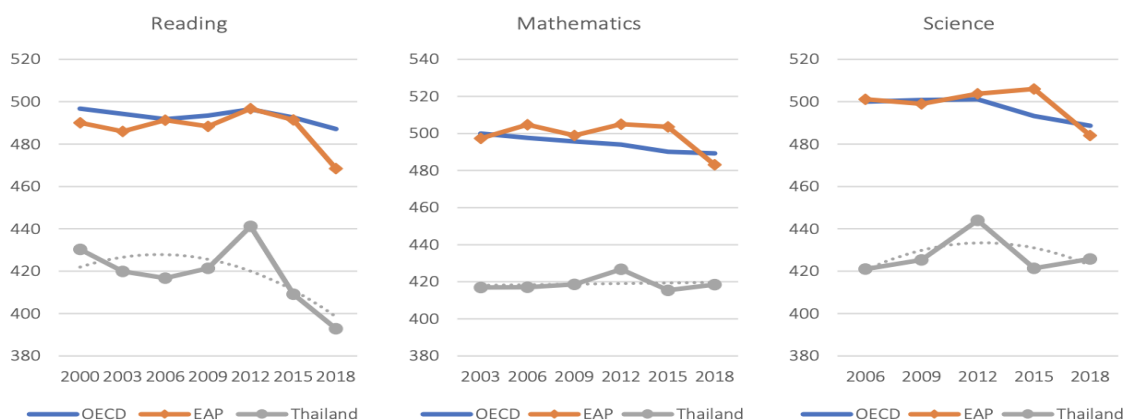
However, it is not difficult to note that HDI (green dot line) is a reference line. The blue (life expectancy) and red (GNI per capita) are above the reference line showing that Thailand is doing well in these two areas. Yet, education is where the

problem is all about. The low education index brought the average Human Resource Index in Thailand down. What this is showing is that Thailand still has a lot to work on in terms of its education policy in order to reach a higher level of HDI. Thus, this study is expected to be helpful for scholars and those who are interested in the issues. This paper specifically looks at the education dimension of Thailand. This is because when disaggregating the HDI index, the education index is the one that was lowest. This is why I want to focus this paper on education policy as an important element for human capital development.

A very famous measure of education performance named Program for International Student Assessment (PISA) is conducted by OECD in order to assess students' performance in reading, science, math and how each countries' government manages their educational system. The most updated version of the report was conducted in 2018 (PISA 2018) and found out of 79 countries participating in the study, Thailand ranked 68th in reading, 55th in mathematics, and 58th in science (World Bank, 2020; OECD, 2018). In 2020, the World Bank published a report analyzing the result of OECD's 2018 PISA. There were a few noteworthy findings that are interesting to discuss in this independent study.

Firstly, looking at the overall trend, Thailand's PISA score of mathematics and science has improved from 2015. However, Thailand's reading score has continued to go down since 2012. Looking at the figure 3 below, another significant takeaway is the fact that Thailand's PISA score for each subject is low compared to OECD and East Asia Pacific countries. Thailand's math score is also low compared to the other two subjects.

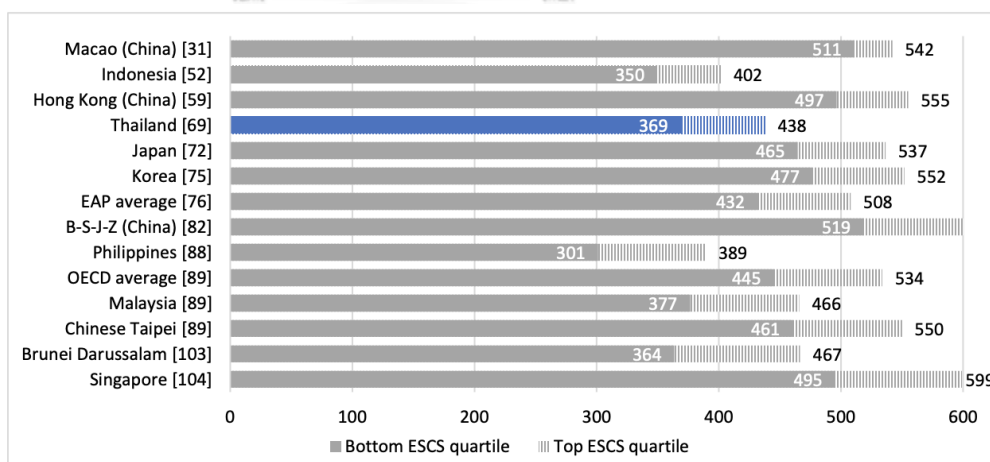
Figure 3: Trend of PISA Score in Thailand



Source: World Bank (2020)

Another finding that supports much other evidence I collected from other sources is the fact that education access and quality is unequal between rural and urban areas which lead to the difference in PISA score between learners in advantageous and disadvantageous schools. The figure below shows the difference between the reading score of students by the quartile of their economics, social and cultural groups. The bottom quartile scored 369 in reading while the top quartile scored 438.

Figure 4: Reading Score by Economics, Social and Cultural Group



Source: World Bank (2020)

In terms of reading performance and learning time per week, Thailand is not doing very well. Thai students learn over 55 hours a week (OECD average is 44 hours), but reading score is far below (about 100 points lower) OECD average of 487 points. This implies that Thailand's education system, teacher quality, and curriculum design are weak and could be improved.

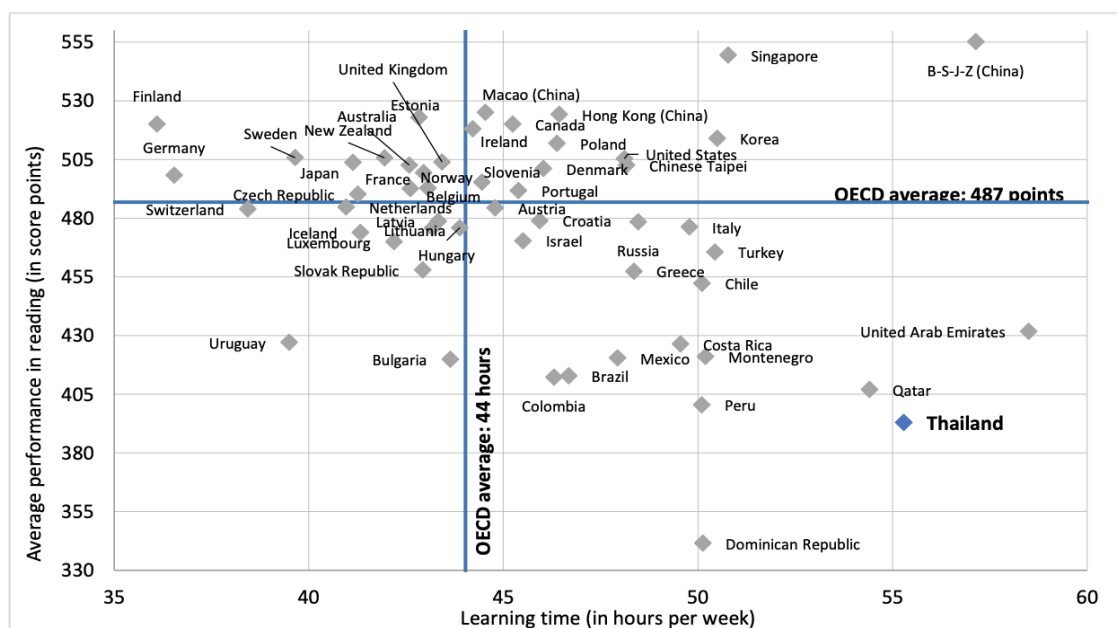


Figure 5: Reading Performance and Total Learning Time per Week

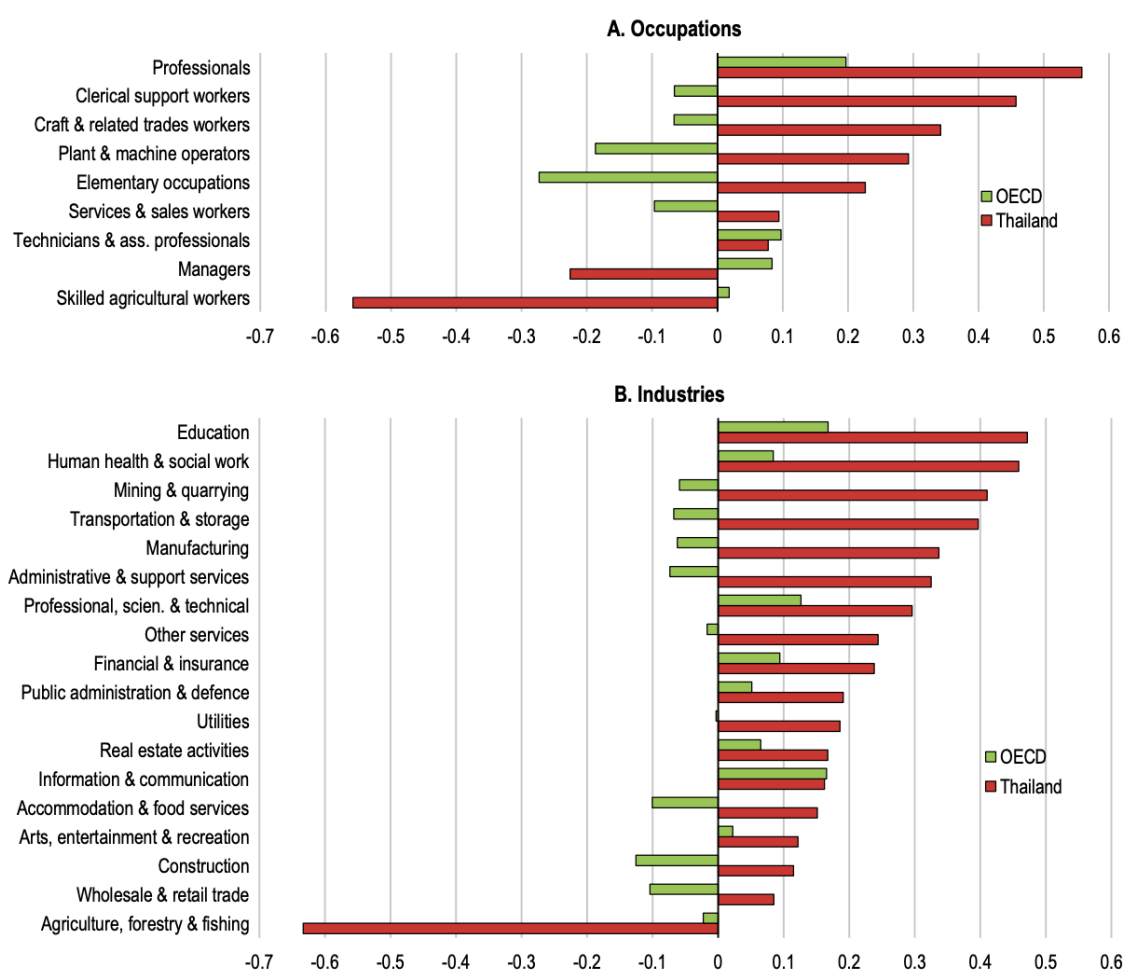
Source: OECD (2018)

Speaking of the supply side of education in Thailand, the report also discussed the quality of teachers and schools in Thailand. In particular, the report discussed educational staff shortages in both rural and urban schools where the student-teacher ratio is high. Not only do teachers quality is limited, some reported absence of teachers, and some lack of skills in using electronic devices and technology (World Bank, 2020).

Another supply-side issue of the current Thailand education and human capital policy is about skills mismatch. A recent report by OECD (2021) shows a shortage and surplus of skilled workers for specific occupations and industries. For

occupations, Thailand has a surplus of skilled agricultural workers but a shortage in technical, machinery, and mechanic related jobs which is not the case of OECD countries. The same is true when looking at the industrial level. Besides agriculture, forestry, and fishing, Thailand has a shortage of labor supply in all industries. The highest shortage is education, human health, transportation, and mining industries.

Figure 6: Shortage and Surplus in Labor Supply



Source: OECD (2021)

Therefore, the World Bank (2020) concluded their report by stating three policy recommendations: which comprising (1) enhance school inclusions, (2) strengthen teacher quality and (3) making an effective learning time.

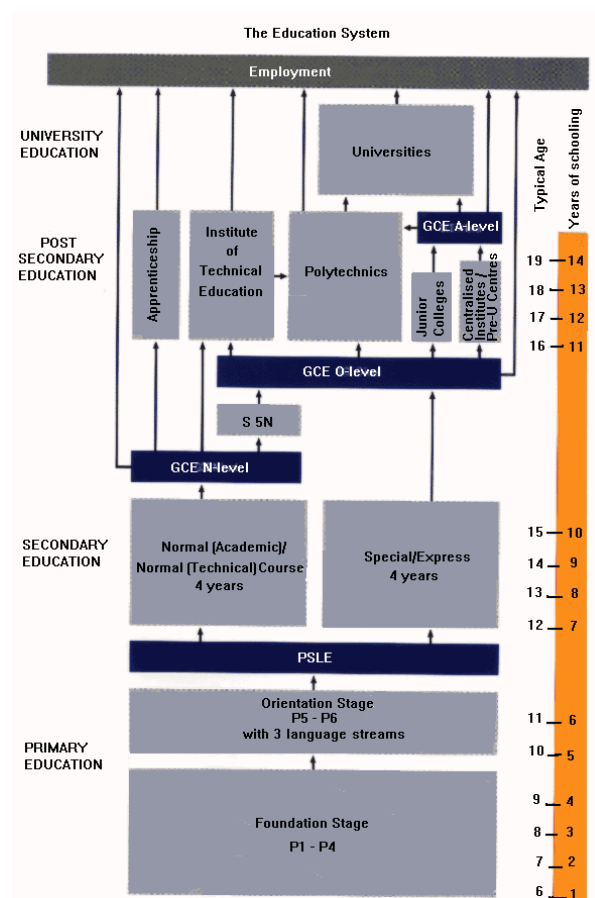
4.2 On Singapore Education

Singapore is well known for its growth in the early 19th and 20th century and is often recognized as one of the “Asian Tigers”. Growing from a small island country with low Gross National Products, Singapore has made a milestone of achievement to become the top economy among the ASEAN Nations, and became one of the most outstanding performers in Asia and the world. A big contribution of the growth in the economy would be because of its well-known high quality of human resource. Singapore is chosen for a case study in this independent study for a few reasons. It is in the same region as Thailand. Therefore, some measures which had been taken in Singapore might be applicable to Thailand. Second, Singapore is an outstanding performer. If Thailand has to adopt other countries’ footprints, she should seek to learn from the best. Without any doubt, Singapore is one of the tops of the list. This session will summarize Singapore education and human capital policy from historical perspective and continue to discuss the HDI breakdown of Singapore to understand its strengths and weaknesses in order to pave the way to analyze on what Thailand can learn from this peer country.

(1) Education Structure

Singaporean’s education structure and system represents a very interesting topic to explore. Like other countries, it consists of primary education, secondary education, post-secondary education and university education. However, looking at the Figure 7, three major important and significant differences can be spotted in Singaporean’s education structure compared to a typical country.

Figure 7: Singapore's Education System



Source: (UNESCO, 2007)

First, Singaporean students have many options to choose from. After primary education, students can choose two different paths of secondary education either to go with normal or express paths. It is designed to help highly capable people to succeed and also to help slow learners to get the best from the time spent at school. After secondary education, learners can either choose to proceed with the advanced education in college or go to the specialized training programs in order to acquire hard technical skills.

Second, Singapore puts a strong focus on multilingual education. From primary level, there are three distinct languages (English, Chinese and Malaysian) options available to choose from. Giving options to students is a smart decision because learners will only be able to learn if they can make their own decision and enjoy doing it.

Third, Singapore adopted GCE N level, O level, and A level which are well known and comparable to the Cambridge education system. This is a very important part of its structure because its education is somewhat comparable to many of the internationally acceptable standards.

(2) Education Reforms

Before becoming what it is today, Singapore also underwent many reforms and changes. From the year 1960 to 1970, it was known as the survival-driven phase. Many education policies were rolled out for the first time to boost an enrollment rate; some of it focused on increasing enrollment, some focused on improving the quality and some focused on including a bilingualism element into the education system. During the year 1970 to 1980, it was known as the efficiency-driven phase. In this phase, the focus has shifted to improve the efficiency of workers through creating more vocational training programs and schools. Between the year 1980 to 1990, Singapore has put more emphasis on improving the ability of its students by putting learning English as a main priority. From the year 1990 to 2000, after experiencing the financial crisis, the Singaporean government has thought more about the long term by focusing on STEM education and investment in the future. Afterward, Singapore has implemented what is known as “Teach Less, Learn More” by encouraging students to self-study and think innovatively. The below sub-sections will summarize the reforms in more details:

Phase 1: The year 1961 to 1965

In the first phase of reform, the government has made education available in four languages but English has to be learned as a second language. A common syllabus system was also introduced to the country. With limited resources as a small country, the government ran a massive recruitment of teachers in order to make sure that they have teachers to teach in all four languages. Additionally, Singapore created the Technical Education Department (TED) in the Ministry of Education which was a critical success and pooled the resources to train skilled workers in the 20th century.

However, because it just started its reforms and the country has limited resources to spare, the results were not as good as expected. Mastering two languages was hard for students, test scores were low, and dropout rate was high.

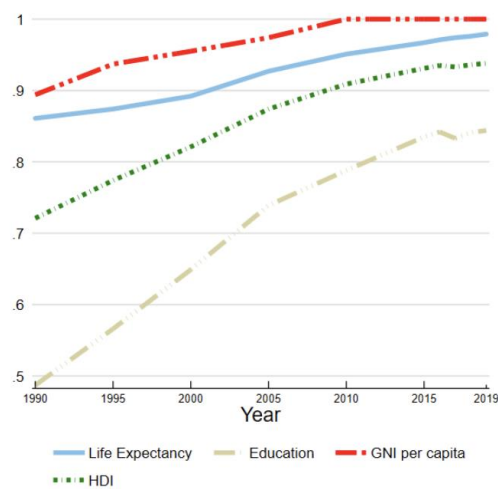
Phase 2: From 1979 – 1997

The focus of this phase is to improve education quality, enhance the bilingual system and foster STEM education in the country. In this phase, the Ministry of Education has developed a standard of practice and manual for school principals. They also improved Curriculum by establishing Curriculum Development Institution of Singapore (CDIS) and created an information gathering mechanism for school administrators to monitor students and track changes. To supply skilled laborers to the market, Singapore has focused very much on improving human capability through Skills Development Fund (SFD) disbursed by the Economic Development Board (EDB) which was a critical success to attract investment back then.

Phase 3: After Asian Financial Crisis

Similar to the reforms in Thailand and many other Asian countries, the financial crisis woke many leaders from their sleep to start thinking about the long-run and future of their respective countries. Singapore was also no exception. The government has shifted the focus on creating a better future Singapore by emphasizing on “creativity, teamwork, processing information and entrepreneurship”. In this phase, the government was motivated to make Singapore become a technology-intensive economy rather than labor intensive. Therefore, STEM education and university quality has significantly been improved.

Looking at the overall picture of the Human Development Index as a proxy of human capital, the country ranks 11th out of 189 with a score of 0.94 (1 is full score) in 2019. This means that the country is only behind 10 other countries globally. Between the year 1990 to 2019, the index increased from 0.721 to 0.94 showing a sharp improvement. As I have examined for the case of Thailand, HDI comprises education, GNI per capita and life expectancy.

Figure 8: Trend of Singapore's HDI component indices, Year 1990-2019

Source: (United Nations Development Program, 2019b)

In the case of Singapore, education shows the sharpest improvement throughout the period. Singapore has always been doing well with its health and income indicators since 1990, but education was also shown its weakness and contributed to the low score in the 1990s. However, when the country focused on improving the quality and access of better education, a significant improvement was found, and it largely contributed to the fast growth of HDI as shown in figure 8

(3) Current policy and goals

In Singapore, the Ministry of Education (MOE) is the organization that builds and implements education policies to help the country achieve its human capital goal. The Singaporean government believes that the wealth of the nation lies in its people, and to achieve a better Singapore in the future, the government needs to provide learners with a balanced and well-rounded education to develop them to their full potential.

According to the official website of the Singapore Ministry of Education (2021), the Singaporean government aims to create new generations who possess a good sense of self-awareness, sound moral compass, necessary skills, and knowledge to take on challenges of the future. In particular, every future Singaporean should be confident, self-direct, active contributor, and concerned citizen.

Tan (2016) discussed one key element of the Singaporean education system which is lifelong learning (LLL). Singaporeans had increased their budget from an average of 500 million to 1 billion every year to support their education policies in 2020 (Tan, 2016). A particular initiative to develop LLL in Thailand is called SkillsFuture. The goals are to

1. Help individuals make well-informed choices in education, training, and careers.
2. Develop an integrated high-quality system of education and training and responds to constantly evolving needs.
3. Promote employer recognition and career development based on skills, mastery; and
4. Foster a culture that supports and celebrates lifelong learning

(4) Key Success Factors

(4.1) Widespread of information through an informative website

I searched through the Singaporean government official ministry of education website, and the official SkillsFuture website and found that there is a lot of information available on demand. Compared to the official website of the Thai government, the Singaporean government's website is more interactive and informative. The web pages provide detailed, critical, and useful information for learners to understand their options and the desired outcome.

(4.2) A forward-looking and integrated planning system

An evidence that cannot be denied is the effectiveness of the government and its board who planned everything ahead of time. Singapore is a very small country and it has limited natural resources and population. The fact that the

government has developed economics agencies (eg: Economics Development Board) who were tasked with identifying specific industry groups and manpower to supply to the market in both present and future was a unique characteristic of Singapore. Collaboratively, the economics agencies, Ministry of Education, Ministry of Labour and Ministry of Commerce worked together effectively to manage supply and demand in the markets of laborers and high-skilled workers. However, it is important to note that the government has to think way ahead of the time to estimate demand in the future because creating human resources takes time. In this regard, Singapore did very well.

(4.3) Close Links between policy implementers, researchers and educators

Not only does the policy designers do their job well, Singapore has a good collaborative working environment between implementers, researchers and educators. There are active researchers who collect information directly from the field, process it, research it and present it to the National Institution of Education who is in charge of providing education to educators. In this loop, the teachers are always updated with new information and capability to tackle the current educational issues.

(4.4) The advantages of a small scale

A unique characteristic of Singapore that makes its policies difficult to replicate would be the size of its student population, and as a result, the size of reforms they need to make. In the OECD report produced in 2010, there were approximately 522,000 students and 360 schools in the country.

(4.5) A strong focus on mathematics, science, and technical skills

This is a very important strategy. Singapore wants to focus on providing technology-intensive laborers to the globe rather than labor-intensive laborers. In order to achieve that, human resources in Singapore need to be equipped with strong science skills, math, and hard technical skills. With that in mind, the curriculum has

been designed from primary and secondary education to help students discover their strengths and offer resources for them to learn more.

From analyzing the structure, achievement, and reforms in Thailand and Singapore, it is not hard to identify the strengths and weaknesses of the two countries and how Thailand can learn from Singapore. These will be summarized in the section of conclusion and policy recommendations. However, Singapore's education system also encounters a few challenges. Kwek, et al. (2020) reported a few challenges such as decreasing educational funding; continuous tensions between key social institutions (state, school, industry, religion, persistence of institutional mechanisms of accountability and performativity); increasing separation of education, social, economic, and health policies etc.



Chapter 5 Conclusion

5.1 Four Different Approaches for Better Performance of Human Capital

Development

Through the structure of this independent study, I am going to recommend policy for the government to improve its human capital from four different angles, namely, from SWOT/TOWS analysis of Thailand, lessons can be learned from Singapore, and my assessment of current policy and measure, and policies to improve college enrollment based on my research.

5.1.1 The First Approach: SWOT/TOWS Matrix

SWOT matrix is a planning tool, whereas TOWS matrix is an action tool. In SWOT analysis, I will identify all the Strengths, Weaknesses, Opportunities, and Threats at each point that Thailand has been facing in terms of human capital development. The SWOT framework can help leveraging the strengths, improving weaknesses, minimizing threats, and taking the greatest possible advantage of opportunities (Lynch W., 2020).

Addition to this, TOWS matrix can help identify the relationships between the abovementioned factors and selecting strategies on their bases. To illustrate, strengths and weaknesses are abstract concepts that can be hard to think about without any sort of the context. Therefore, I will connect internal points (Strengths and Weaknesses) with the external points (Opportunities, and Threats) to find the actionable plan.

Table 2: SWOT Analysis of Thailand

| Strengths | Weaknesses | Opportunities | Threats |
|--|--|---|---|
| <ol style="list-style-type: none"> 1. High spending on education (16.8% of budget, 2020 = 3% of GDP, 2019) 2. Thai human capital is competitive in the region provided that the wage is low. 3. Free Education for 12 years | <ol style="list-style-type: none"> 1. Education system ranks 41 among 63 countries 2. Low supply of skilled labor 3. Low labor productivity 4. Low secondary and higher education attainment 5. High level of pupil-teacher ratio 6. Low test score 7. Lack of financial and language skills 8. Lack of knowledge transfer between companies and university 9. Inequality in education by regions, gender, and family background 10. The uneven quality of education system (city vs rural, school characteristic) 11. Low level of school readiness (pre-school) for Thai children | <ol style="list-style-type: none"> 1. Increasing FDI from overseas help to stimulate demand of human laborers 2. Education attainment rose in recent years compared to past years | <ol style="list-style-type: none"> 1. Thai government are not cooperative 2. Everything centralized in Bangkok not expand to other provinces 3. Only rich families can afford good education 4. Social inequality 5. Focusing on cheap labor is not sustainable in the long run. 6. Increasing teacher compensation might not be effective 7. Lack of computer (technology) and foreign language education can make progress in human education in Thailand slow |

Source: Based on OECD (2016) and The World Bank (2020).

Looking at the strengths, Thailand spent 16.3% of its budget (2020) equivalent to approximately 3% of its GDP (2019) on education. Thailand made primary and secondary education at public school available at no cost to its citizens. The government also requires compulsory education for 9 years. Thailand human resource is famous for its low cost compared to the nearby countries.

Speaking of the weaknesses, Thailand has a lot of issues. Because the country is large, one outstanding weakness is the unequal distribution of access and quality of education. Education attainment in urban areas is much higher than in rural areas. Quality of education in regions far away from big cities is poor. Children are not well prepared for primary education yet. The level of readiness is low. Also, standardized test scores are low among Thai students.

There is a huge potential for Thailand to improve its policy to produce more human capitals for two resources. Firstly, there has been a lot of Foreign Direct Investment (FDI) flowing into Thailand, so there will be more demand for human capital. In other words, FDI brings capital and technology to target firms, industries, and locations, affecting demand for labor (Hale and Su, 2016). Demand should stimulate supply. Secondly, evidence shows that the education attainment for every year is increasing for the recent cohorts.

However, there are also risks. For Thailand, if too much emphasis is put on building low labor forces for the manufacturing industry, the development is not going to be sustainable.

Table 3 : TOWS Analysis of Thailand

| Strengths & Opportunities | Strengths & Threats | Weaknesses & Opportunities | Weaknesses & Threats |
|--|--|--|--|
| 1. Utilize the spending on education to get the best of every dollar by investing in vocational school, improve human resource readily for high-labor work | <ol style="list-style-type: none"> Promote vocational school as an alternative to college, and train human resources for industrialized jobs. Spend money on incentivize students to complete degree and teachers to pay attention to teaching Create programs that focus on foreign languages (English) and Computer | 1. Ensure that FDI is relocated to all regions of the country, so that it can bring positive spillover effect on equalizing education access and quality | <ol style="list-style-type: none"> Policies to improve human resources should focus on <ul style="list-style-type: none"> Equal access and quality across the country Prioritize the education on English and Computer |

Source: Created by Author.

(1) SO: Expand expenditure and investment to reach rural areas

Pairing strengths and opportunities, its policy should focus on making education equally accessible and try to minimize the gaps of quality difference according to regions. Thailand can leverage its strengths of high FDI to distribute the investments to rural areas where education is poor. The investment can have spillover effects on the improvement of education. Thailand spending on education in general is high, therefore, the government should use every dollar of its budget to decrease inequality of education access across the country. With the opportunity of attracting foreign direct investment, Thailand should use its strength of having low wage laborers to attract investment in medium and high skilled production, and if possible, investment on school, and education. Creation of schools in rural areas should be awarded with tax credits or other financial incentives.

(2) ST : Utilize government budget to provide alternatives Thai people

Thailand has a lot of threats including the threats of people not making enough income in the future provided that some of them (especially those living in rural areas) already do not have access to good quality of education. As a result, Thailand should utilize the strengths of high educational expenditure to promote education among people who cannot go to good school or are not good with studying to train technical skills either to become professional technicians or high-skilled laborers in the future.

(3) WO: Ensure that investment on education is efficiency and used to strengthen the education system

As Thailand experiences a lot of problems in enrollment rate, low score, low teacher ratio, and inequality of access between rural and city, the government needs to make sure resource allocation is efficient. With the opportunity of getting investment overseas, the Thai government needs to make sure to design policies to effectively use their money to correct its weakness.

(4) WT: Prioritize equality of human resources and focus on multilingualist

It is not difficult to see the threat from neighboring countries with comparable or even better quality of human resources. In addition to these threats, Thailand still faces issues as listed above. In order to fix this, the Thai government needs to empathize with equality. It should train people to take high skilled and managerial jobs by promoting vocational school as alternatives to college. Third, to chase after globalization, school's curriculum should focus on teaching Thai students English and Computer skills (coding, data science, programming, etc).

5.1.2 The Second Approach: Learning from the peer country, Singapore

From reviewing literature and analyzing Singapore's reform from historical context, it is important for the Thai government to follow some good footprints of Singapore, comprising:

(1) Empathize on long-term - policies should be forward looking

The Thai government needs to look into the future and design policies to train human resources now who will be ready to go into labor markets when they graduate.

The government and related institutions need to consistently research global labor demand and ensure that the country is ready for it.

(2) Decentralizing education system and empower school principals to lead

It is also important to note that Singapore is successful because it decentralizes its schools system and gives more power to the teacher and principal to lead the way they see fit. This gives them more flexibility to adjust their implementations in order to achieve the best result.

(3) Establishing standardized curriculum comparable to other countries

Singapore designed its curriculum to keep its learners more capable and competitive compared to other developed nations. The fact that curriculum is standardized also ensures that there are no education inequalities across the nations.

(4) Focusing on STEM Education, English and technical skills

This is what really makes Singapore strong. Singaporean people are well known for being fluent in English and are critical thinkers with their STEM knowledge. This is what Thailand can learn from. It should incorporate English in better quality to the current curriculum and put more emphasis on Science, Engineering, Technology and Mathematics. Additionally, the government can also improve and create more technical schools.

(5) Collecting information and revise policies

Singapore actively conducts research and surveys to measure the success of their implementations and act quickly when needed. This is important for Thailand, the government should look into hiring researchers to study about changes and see what areas could be improved.

5.1.3 The Third Approach: Revisions to Current Policies and Policy Evaluation

The current policies should be updated to shift the focus away from the aggregate number and look at narrowing the inequality gap of access and quality.

Policies can be innovated and thought from the perspective of stakeholders and use “incentive” and “disincentive” to influence the behaviors of the group of stakeholders.

The new policies should include three additional objectives/goals:

- (1) Improve education access to low-income and disadvantaged families
- (2) Increase the number of teachers in schools located in rural areas
- (3) Equalize resources allocation in urban and rural area

Specifically, Ministry of Education of Thailand should update new policies should include the following elements to directly impact all stakeholders: students, parents, teachers, school administrators and the public, in the following orders:

1. Reduce the out-of-pocket cost of going to school for low-income students

Although education itself is provided at free-of-charge, there are costs associated with going to school including transportation, food, textbook, uniform, and school supplies, etc. In order to encourage students in low-income families to go to school, it is necessary to make the cost of going to school close to zero for them.

Schools and administrators in rural areas can provide free school bus to pick up and drop off students from village/community hub or village-center; one meal a day for people from low-income families; two uniforms per year for students whose parents make little money; and allow students to borrow textbooks from library and return back at the end of year, so school can use it again next year to lend to next cohorts.

2. Incentivize low-income families to send their kids to school

Besides the direct cost of going to school, students also encounter opportunity cost, or the foregone income they could have earned if they don't go to school and help their parents in the rice field. In order to encourage parents to send their kids to school, government can provide tax incentives or tax credits to families whose kids go school; and cash transfer (5,000 baht) to families per every kid who finishes primary school, and secondary school.

3. Incentivize teachers to relocate to rural area

There are more teachers living in urban areas and prefer not to teach in rural areas. In order to fix this problem, government can provide more incentive for teachers who teach in rural areas by adding premium wage compensation (20% addition to base salary); accommodation and food subsidy; and include “teaching in rural school” for one year in the curriculum training of becoming a certified teacher

4. Incentivize school principal to improve his own school

Principals play a very important role in ensuring the implementation of this policy. They know exactly which students need help, what their school needs, and their own resources. Government can empower principals to make decisions and make them accountable and responsible for their actions, design competitions and award schools with good progress and good governance; and provide executive training programs for school principals by zoom.

5. Create a buddy and adoption program to pair students/donors with a student who needs help

To make education more accessible to rural areas, governments need to make the public aware of what is happening and become a force for betterment. Government can design a buddy program for kids or children in both rich and urban schools where each and every one of them can share used textbooks, uniforms and some available resources with their peers living in the countryside who need support. Additionally, working individuals, young professionals, retired elders and foreigners living abroad can sign up for “adopting” programs in which they can send money or sponsor one kid to go to school and track their attendance and performance over time.

The above policies will achieve the objective of more equality in education provision and equality for three reasons. First, the government can allocate the resources to the population which needs the most help. Schools and students in rural areas need more assistance than schools in urban areas. However, it is also true that there are low-income students who study in urban areas too, this policy does not mean to exclude them. Second, breaking down policies to incentivize each stakeholder ensures that the government can influence their behavior to achieve the optimal education goals. Third, the buddy and adoption program will raise public awareness of

education inequality. The more people joining the campaign to promote equal access and quality of education in Thailand, the stronger force and better result it will be.

In evaluating the current education policy, National Scheme of Education mention about evaluation process that include the following steps (Resource, 2017) as following :

1. Design the contextual evaluation before, during and after the implementation of the plan.
2. Ensure that the evaluation of the central, regional and provincial organization will watch the content of the National Scheme of Education
3. Promote collaboration between other involved organizations
4. Appoint expert and unbiased institutions or organizations to be the evaluators
5. Hold open forums for everyone to share opinions
6. Present the result to everyone who is involved

The current evaluation process is very dynamic. However, it also have a few weaknesses which include:

1. Using the bottom-up approach. The evaluators are expert and unbiased institutions as well as central, regional and provincial administrators. Sometimes, they could not see the complete story.
2. Focusing too much on the “result”, and not the process. Because the evaluators are not students themselves, they can only evaluate at the point of the education process, and usually focus too much on the year-end result, and aggregate number.
3. Focusing too much on the “aggregate number”. There is a trade-off between quality and quantity. The current issue in Thailand's education policy is very few students are performing well while a big proportion of students are performing badly compared to other developed nations (O.E.C.D, 2016).

As a matter of fact, the following evaluation innovation is suggested to improve how to better track the progress of education policies.

The Ministry of Education, the Office of Education Council, the budget committee, local, regional and provincial administrators should all be involved in this process. The new evaluation process should include the formers and add the elements below:

1. “End-User” experience survey

Students should be able to say what they feel about their 3Rs + 8Cs, as well as the 5 aspirations (access, quality, equality, relevance and efficiency). It is important that the Ministry of Education is able to collect the raw data from what the students think about, and perform research to understand why their feelings and comments are different from what the independent evaluators say about education. The budget committee should allocate some budgets for the Office of Education Council to design surveys, administrate it, and perform research on the data. The local, regional and provincial administrators are the implementers in this evaluation process. They work with school administrators and teachers to ensure that the surveys are filled. Most importantly, they need to ensure that the answers are honest and not manipulated. Students should feel comfortable, and their responses should be anonymous.

2. Disaggregate feature

The evaluation should not just be at the national and provincial level, it should be able to scope down to each district, each community, and each school. This ensures that the group that needs the most help will receive more assistance.

3. Conduct Pilot and Treatment or Control Group study

It is difficult to judge the effectiveness of the policy without controlling for external effects. Any national-wide policies should be studied carefully in the pivot study by implementing the policies on a small area or some school first and compare the progress with a similar area or school to see if the policy achieves its goals. Tools such as the difference-in-difference approach are useful here.

In conclusion, the current evaluation of education policy in Thailand is quite good but still lacking these three elements. Adding the features of end-user survey,

disaggregation and control-group study will improve our understanding of the effectiveness of policy and help the government better design the policy. All institutions such as the Office of Education Council, the budget committee, local, regional and provincial administrators, school principals and teachers led by the Ministry of Education should all be involved.

5.1.4 The Forth Approach: Policies to increase college enrollment rate

As I have examined in the previous section, from a classical economics perspective, I need to balance the cost and benefits of going to university and make this option attractive to Thai students. In simple words, I need to come up with policies to increase benefits and lower the cost of going to college. This can be done in multiple ways.

First, the government needs to attract more foreign corporations and create more “high-skilled” and “managerial” jobs that pay well which require a college degree so that the students are more attracted to go to school. For students from low income families, the government should reward college students with some tax credit to spare to the family so he/she would not be pressured to start working early.

Secondly, the government should work on reducing the cost of going to college. This can be done by providing more scholarships to students, but this can be a huge expense for the government - therefore it has to be done carefully and thoughtfully to make sure the money goes to the one who needs it. Additionally, the government should work with banks to provide cost-effective college loans. Although loans are available now, people still have limited knowledge about it. It is both institutions’ responsibilities to educate people especially in rural areas to understand why borrowing money for education is a smart choice.

When looking from a behavioral perspective, it is not difficult to see that parents with limited education and culturally conservative mindset may also make it hard for their children, especially girls to go to school. Therefore, the government needs to tackle this critical issue very carefully.

First, to educate parents about the importance and life-long future earnings of going to college. An investment today will be worth a lot more in the future. This is going to be challenging, and I think village leaders in rural areas are going to be a

crucial agent to do it. Secondly, the government need to break the conservative of mindset of “women cannot go to school”, “women will married and become housewives anyway”, “college is only for men” - this is now 21st century and gender discrimination in any forms is not right. Government should run campaigns to showcase successful women entrepreneurs, politicians, celebrities, and professional workers to show that women are capable just like their male counterparts if given the same opportunity.

5.2 Policy Implications

From my analysis and research, Thailand is not far from success. The reforms that happened in the past did bring some positive improvement. As a nation, Thailand is improving but at a slow pace compared to Singapore. With limited resources, it is important for the government to prioritize what is most impactful and most cost-efficient. As a result, further research to identify the cost and benefits of the above recommended strategies are useful to understand this topic deeper.

References

- About Skillsfuture. SSG | AboutSkillsFuture. (n.d.). Retrieved November 21, 2021, from <https://www.skillsfuture.gov.sg/AboutSkillsFuture>.
- Becker, G. (1962). Investment in Human Capital: A Theoretical Analysis. *Journal of Political Economy*, 70(5), 9–49.
- Becker, G. (1993). The Economic Way of Looking at Behavior. *Journal of Political Economy*, 101(3), 385–409.
- Becker, G., Hubbard, W., & Murphy, K. (2010). Explaining the Worldwide Boom in Higher Education of Women. *Journal of Human Capital*, 4(3), 203–241.
- Blaug, M. (1976). The Rate of Return on Investment in Education Thailand. *The Journal of Development Studies*, 12(2), 270–283.
- Board, C. (2019). Trend in College Pricing. *Trending in Higher Education Series*. Published.
- Carnevale, P., Canevale, P., Rose, Stephen, J., & Cheah, B. (2011). The College Payoff. Georgetown University Center on Education and Workforce. Published.
- Child Research. (2015). Childresearch. Retrieved May 11, 2021, from <https://www.childresearch.net/projects/ecec/thailand.html>
- Desired outcomes of Education. Base. (n.d.). Retrieved November 21, 2021, from <https://www.moe.gov.sg/education-in-sg/desired-outcomes>.
- Elizabeth, M., King, & Anne, H. (1993). *Women's Education in Developing Countries: Barriers, Benefits and Policies*. Baltimore u.a: Johns Hopkins University. Published.
- Fry, G. W., & Bi, H. (2013). The evolution of educational reform in Thailand: the Thailand education paradox. *Journal of Educational Administration*, 51(3), 290–319.
- Google. (n.d.). Meet Google Drive – one place for all your files. Google. Retrieved November 21, 2021, from <https://drive.google.com/drive/u/1/folders/1TBk-jZKLWGPBEnKhRI5dQ5TCgzi5CUE>.
- Hale, G. and Su, M. (2016). FDI effects on the labor market of host countries. Federal Reserve Bank of San Francisco Working Paper 2016-25.
- Kwek, D., Teng, S. S., Lee, Y. J., & Chan, M. (2020). Policy and pedagogical reforms in Singapore: Taking stock, moving forward. *Asia Pacific Journal of Education*, 40(4), 425–432. <https://doi.org/10.1080/02188791.2020.1841430>

- Lynch, W. (2020). Strategic Planning to Actionable Items: From SWOT to TOWS Analysis. Retrieved from <https://warren2lynch.medium.com/from-swot-to-tows-analysis-55ac394064b7>.
- Meara, E. R., Seth, R., & David, M. C. (2008). The Gap Gets Bigger: Changes in Mortality and Life Expectancy, by Education 1998 - 2000. *Health Affairs*, 27(2), 350–360.
- M.E.T. (n.d.). Education Policies of Mr. Chinnaworn Boonyakiat. En.Moe.Go.Th. Retrieved July 19, 2021, from <http://www.en.moe.go.th/docs/8policies.pdf>
- M.E.T. (2017). Policies of Ministry of Education. En.Moe.Go.Th. Retrieved July 19, 2021, from <http://www.en.moe.go.th/enMoe2017/index.php/policy-and-plan/policies-of-ministry-of-education>
- O.E.C.D. (2010). Singapore: Rapid Improvement followed by strong performance. *Oecd.Org*. Retrieved October 20, 2021, from <https://www.oecd.org/countries/singapore/46581101.pdf>
- O.E.C.D. (2016). Education in Thailand: An OCED's perspective. *Oecd.Org*. Retrieved June 19, 2021, from <https://www.oecd.org/publications/education-in-thailand-9789264259119-en.htm>
- Patrinos, H. A. (2018). Strong link between education and earnings. *World Bank Blogs*. Published.
- Pisa 2018 insights and interpretations final PDF - OECD. (n.d.). Retrieved November 21, 2021, from <https://www.oecd.org/pisa/PISA%202018%20Insights%20and%20Interpretations%20FINAL%20PDF.pdf>.
- Resource, E. (2017). The National Scheme of Education B.E. 2560–2579. *Edubright.Com*. Retrieved July 20, 2021, from https://edubrights.com/resource/2018/11/27/the-national-scheme-of-education-b-e-2560-2579-2017-2036/?fbclid=IwAR0boPLSPoFB_UPGQDdnJ0YDz_z4fQOf-drAF1gx1IH6mgzLBwvMc0kAu7o
- Sandra Black, E. (2002). Who Goes to College? Differential Enrollment by Race and Family Background. *NBER Working Paper Series*, 9310.
- Sasiwimon, W. P. (2020). Intergenerational Transmission of Human Capital: The Case of Thailand,. *ERIA Discussion Paper Series*, N(354).
- Sasiwimon, W. P., & Mcnown, R. (2010). The Returns to Education in Thailand: A Pseudo-Panel Approach. *World Development*, 38(11), 1616–1625.
- Sokatch, A. (2006). Peer Influences on the College-going Decisions of Low socioeconomic Status Urban Youth,. *Education and Urban Society*, 39(1), 128–146.

The World Bank (2020). Government Expenditure on Education, total of GDP in Thailand. From <https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS>

Thomas, J. K. (1994). The Role of College Costs, Family Background and Returns to Education. *Journal of Political Economy*, 102(5), 878–911.

UNESCO. (2007). Country Basic Information. Ibe.Unesco.Org. Retrieved July 18, 2021, from http://www.ibe.unesco.org/fileadmin/user_upload/archive/Countries/WDE/2006/ASIA_and_the_PACIFIC/Singapore/Singapore.htm

United Nations Development Program. (2019). HDI: Singapore. Hdr.Undp.Org. Retrieved July 16, 2021, from <http://hdr.undp.org/sites/default/files/Country-Profiles/SGP.pdf>

United Nations Development Program. (2019). HDI: Thailand. Hdr.Undp.Org. Retrieved July 16, 2021, from <http://www.hdr.undp.org/en/countries/profiles/THA>

User, S. (2017, October 19). Education strategic plan. Home. Retrieved November 21, 2021, from <http://www.en.moe.go.th/enMoe2017/index.php/policy-and-plan/education-strategic-plan>.

Yusuf, S. (2020). *Building Human Capital: Lesson from Country Experience. How Singapore Does It*. Published.

Vandeweyer, M., Espinoza, R., Reznikova, L., Lee, M., & Herabat, T. (2020, December 18). Thailand's education system and Skills Imbalances: Assessment and policy recommendations. Digital Object Identifier System. Retrieved November 21, 2021, from <https://doi.org/10.1787/b79adb6-en>.

World Bank Document - documents1.worldbank.org. (n.d.). Retrieved November 21, 2021, from <https://documents1.worldbank.org/curated/en/683311593415205230/pdf/Thailand-Programme-for-International-Student-Assessment-PISA-2018-Country-Report.pdf>.

World Bank Group. (2020, December 8). More inclusive and better investments in education to improve learning outcomes in Thailand. World Bank. Retrieved November 21, 2021, from <https://www.worldbank.org/en/news/press-release/2020/12/09/world-bank-more-inclusive-and-better-investments-in-education-to-improve-learning-outcomes-in-thailand>.

อัตราค่าเล่าเรียนนิสิตชาวไทย - สำนักงานการทะเบียน จุฬาลงกรณ์มหาวิทยาลัย. (n.d.). Retrieved November 20, 2021, from <https://www.reg.chula.ac.th/fee1.html>.

REFERENCES



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