THAI WORKFORCE-READY FOR ASEAN ECONOMIC COMMUNITY 2015?

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Abstract

ASEAN countries are moving briskly towards the launch of the ASEAN Economic Community (AEC) in 2015. Together with monetary and technological resources, human resources are also vital for ASEAN countries stay competitive in the single market of AEC. Taking the case of Thailand, this paper evaluates the readiness of the Thai workforce in preparing for the integration. It brings to light several fundamental issues of the Thai workforce: (1) the quality of labor in Thailand remains moderate; (2) productivity continues to stay behind other ASEAN countries such as Singapore. The failure of the Thai educational system and the workforce skill mismatch are primary attributes to the workforce's relatively low skill levels and productivity. Based on the empirical analysis, the paper suggests renewing the role of the Thai government in restructuring the national education system as well as cooperating workforce skill planning into the master development plan.

Keywords: workforce, labor, workers, Thailand, ASEAN, ASEAN Economic Community

1. Introduction

On 24 June 2013 in Bangkok, the Ministry of Education of Thailand through the Office of the Education Council, in collaboration with British Council Thailand, organized the two-day conference on "Educating the Next Generation of Workforce: ASEAN Perspectives on Innovation, Integration, and English". The conference emphasized on three critical themes in the ASEAN human resource strategies: innovation, integration, and English. The conference was considered as an effort by the Thai government to prepare the Thai workforce in response to ASEAN integration (British Council 2013). The event indeed has triggered a fundamental question, which is also the topic of this research paper. It concerns if the Thai workforce is ready for ASEAN Economic Community 2015 given the fact that Thailand is classified as the 2nd largest economy in Southeast Asia, after Indonesia.

In search for the answer, the paper will begin to analyze the status of the Thai workforce in comparison with other ASEAN members. The analysis is conducted using data from the Labor Force Survey by the Thai National Statistical Office and ASEAN Statistics Database. The analysis is supported by the literature review on the relationship of labor and economic growth. The second part of the paper discusses the analysis's outcomes. The last section provides the conclusion and policy implication.

2. Contextual Background

ASEAN or Association of Southeast Asian nations was founded in 1967, currently consisting of Indonesia, Malaysia, Singapore, Brunei, the Philippines, Vietnam, Cambodia, Laos, Myanmar and Thailand. At the 9th ASEAN Summit in 2003, the ASEAN Leaders resolved that an ASEAN Community shall be established. Four years later, at the 12th ASEAN Summit in January 2007, the leaders signed the Cebu Declaration on the Acceleration of the Establishment of an ASEAN Community by 2015. The ASEAN Community is comprised of three pillars, namely the ASEAN Political-Security Community, ASEAN Economic Community (AEC) and ASEAN Socio-Cultural Community. The AEC is expected to transform ASEAN into a region with free movement of goods, services, investment, skilled labor, and freer flow of capital (ASEAN 2014). The convergence of ASEAN into a single market presents great opportunities for those who seek a larger market, especially when traditional markets such as Europe and the United States have not shown any vigorous recovery yet.

Thailand is one of the founding members of ASEAN, together with Indonesia, Malaysia, the Philippines and Singapore. Thailand has been a strong advocate for ASEAN's regional economic integration, which has taken shape since the inception of ASEAN Free Trade Agreement in 1992. Thailand proposed the concept of enhanced ASEAN connectivity in a comprehensive manner, comprising physical, institutional and people-to-people connectivity.

In its commitment to AEC, Thailand has already commenced on its National Single Window together with five other ASEAN member countries (Brunei, Indonesia, Malaysia, Philippines, and Singapore). Thailand also ratified the ASEAN Trade in Goods Agreement (ATIGA) in April 2010, allowing for the agreement to finally enter into force in May 2010. Thailand ratified the ASEAN Framework Agreement on Mutual Recognition Arrangement (MRA) in May 2002, which came into effect in December 2002. To date, seven MRAs have been signed, consisting of medical and dental practitioners, engineering services, nursing services, architectural services, surveying qualifications, and accountancy services (Thailand Ministry of Foreign Affairs 2014). Under MRAs, ASEAN professionals in these areas will be able to work in another ASEAN country providing they meet career certification and work permit requirements in each target country (ASEAN 2014).

The liberalization process under AEC is giving Thailand huge opportunities for the expansion of market and production. It has noted that one year after the opening of the Free Trade agreement (FTA) under which the goods tax rates of ASEAN member countries in the AEC decrease, Thailand's market share has increased to 35.8 percent. Such an increase resulted from the growth in the Thai export of the following goods to ASEAN: electrical appliances and electronics, petroleum products and coal, and motor vehicles and parts. Its market shares for these have increased 1.23 percent, 0.85 percent and 2.69 percent respectively. Thailand also has the highest export growth rate at 39.5 percent among ASEAN countries (UTCC 2011).

The regional liberalization, on the other hand, exposes Thailand to a stiff competition with other ASEAN members. The Thai rice sector, for example, has already tasted the bitter slide as soon as the ASEAN FTA came into effect. Rice is the main food for domestic consumption and is also Thailand's principal source of foreign income. Even though Thailand is still the

leading rice exporter of the world, it is now the second rice exporter in the ASEAN market, having been beaten for number one by Vietnam. In 2004, Thailand had a 51.2 percent market share, which was higher than Vietnam's share of 48.4 percent. In 2010, however, the Thai share in the ASEAN market was found to fall sharply to only 29.8 percent, while Vietnam's market's share had risen to 70.0 percent (UTCC 2011).

For this reason, in order to increase the national competitiveness and achieve sustainable economic growth in AEC, Thailand needs to strengthen the productivity throughout its economy. Thai workers must be capable of doing a larger variety of jobs, taking on more responsibility, and learning how to better meet the needs of their employers.

3. Literature Review

The primary driving force of economic growth is the growth of productivity, which is the ratio of economic output to inputs (including capital, labor, energy, materials and business services) (Saari 2006; Piero 2013). While some economists have argued that economic growth is determined by exogenous factors, others such as Romer (1986), Lucas (1988), Barro (1999) and Grossman and Helpman (1991) tried to explain that economic growth rate is closely linked to specific endogenous factors. The role of human capital and the skills of the working population in relation to economic growth are particularly emphasized in both neoclassical and endogenous growth models (Mankiv et. al 1992; Sala-i-Martin et al 2004; Romer 1990). Scholars in this school of economics agree that the wealth of a society is determined by its stock of *human capital*, and economic growth is the process of human capital accumulation at the level of an economy (Topel 1999).

Young's studies (1992, 1994, 1995, cited in Topel 1999) on the growth experience of the four "Asian tigers": South Korea, Hong Kong, Taiwan, and Singapore have shown a strong correlation between GDP per capital and labor productivity. He concluded that the remarkable growth record of these economies had resulted from labor accumulation and utilization, together with changes in the quantity and quality of physical capital. Between 1966 and 1990, output per worker in these economies grew at average annual rates of between 4 and 5 percent, far above the 1.4 percent rate achieved by the U.S. over this period. An increase in labor output contributed to the growth rate of GDP, which ranged between 7 percent and 10 percent in those countries while it in the U.S. was only 3 percent (Dougherty 1991; Young 1994, cited in Topel 1999).

In this light, the quality of workers is essential to enhance Thailand's national productivity. The opening of AEC will bring both opportunities and challenges to the Thai workforce (Saraithong 2012). At domestic level, the expansion of market and production will create more employment opportunities for Thai workers. At regional level, Thai workers will have chances to work abroad thanks to the free mobility of skilled labors. However, the free movement of labor among member countries will force Thai workers into a strong competition with other ASEAN's workers in the labor market, both domestically and regionally. In order to reap benefits from regional liberalization and survive the strong competition of the regional labor market, Thai workers need to get ready.

There are a number of studies that investigated the current status of the Thai workforce in the literature. For example, Lathapipat and Chucherd (2013) addressed the fundamental problems of the labor market efficiency in Thailand; Chalamwong, et. al. (2012) analyzed skills for employability of secondary school leavers in Thailand; Wongboonsin and Wongboonsin (2009) discussed competency development for the stock of the Thai workforce. However, the literature on the readiness of the Thai workforce for ASEAN integration in comparison with other ASEAN members is limited. There is thus a need for a more insightful study to fill this gap.

ASEAN has set up a number of criteria in the AEC Blue Print to monitor the member's implementation of transitional plans toward AEC. Those criteria focus on 4 points, including tariff liberalization, customs facilitation, investment, and compliance and coordination. Thailand's implementation rate under Phase II (2010-2011) reached 64 percent, higher than ASEAN's average of 55.8 percent (ASEAN 2012). Such a high score is supposed to reflect the country's high level of preparedness and commitment. However, it does not necessarily truly reflect the real situation on the ground and that if the Thai workforce is prepared for the regional integration. For this reason, further analyses are deemed required.

4. Definition, objective and scope of research

The objective of the research is to study the current status of the Thai workforce prior to the launch of the AEC in 2015. It aims to learn if the Thai workforce is ready for ASEAN Economic Community 2015. The research results will benefit the Thai government in its efforts to prepare the national workforce for the competition ahead.

The readiness for regional integration of the Thai workforce will be judged on two inter-correlated variables: (1) the quality of the workers and (2) labor productivity. The quality of workers is measured by knowledge and skills accumulated in the workers. The International Labor Organization (ILO) (1992) defines *a competent person* at the workplace is a person possessing adequate qualifications, such as suitable training and sufficient knowledge, experience and skill for the safe performance of the specific work. "Labor productivity", according to ILO (2013), is a measure of the efficiency of production and defined as the ratio of output (GDP) per unit of input (here, labor).

In 2008, the Ministry of Labor in Thailand conducted a survey indicating skills needed among all level of workers. The survey categorized six types of skills, including analytical skill, management skill, technical skill, teamwork skill, computer skill and foreign language skill (Chalamwong et.al. 2012).

World Bank (2014) defines a set of job-relevant skills, which includes skills relevant to the specific job of the workers as well as other skills that enhance their productivity. These other skills include:

- Problem-solving skills or the capacity to think critically and analyze.
- Learning skills or the ability to acquire new knowledge ("learning to learn"), distill lessons from experience, and apply them in search of innovations.
- Communication skills, including reading and writing, collecting and using information to communicate with others, and using a foreign language and information and communication technologies (ICTs) as communication tools.

- Personal skills for self-management, making sound judgments, and managing risks.
- Social skills to collaborate with and motivate others in a team, manage client relations, exercise leadership, resolve conflicts, and develop social networks.

Within its limited scope, this research attempts to find answers for the following questions:

1) Do the Thai workers have higher skills that produced through a university education or professional training, in order to compete with workers from other ASEAN members such as Singapore and Malaysia?
2) Do the Thai workers have sufficient communication skills in order to work in the AEC? (Communication skills are limited to English language proficiency, since English was chosen as the working language of ASEAN (Article 34 in the ASEAN Charter on 'Working Language of the ASEAN' reads: 'The working language of ASEAN shall be English' (ASEAN 2014)).
3) How does the current status of the Thai workforce affect the national productivity and competiveness?

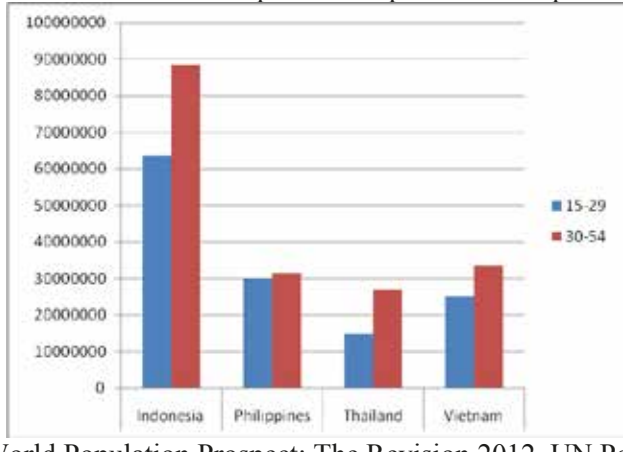
5. Thai workforce in ASEAN

5.1 Academic Competencies

The ASEAN is a vast region with a total land area of 4.436 million square kilometers. Based on the World Population data prepared by United Nations Population Division, the population of ASEAN will increase from 631 million people in 2015 to 721 million in 2030 and 734 million people in 2035, a rate of 0.85% per annum.

By 2015, Thailand will be the fourth largest ASEAN member in terms of population. Its projected population at 67 million in 2015 will account for 11 percent of the ASEAN total (Table 2 in the Appendices). Following this trend, by 2015, 61 percent of the Thai population, ranging from 15 to 54 year olds, will join the regional workforce. Of which, half of them are from 15 to 29 year old (Figure 1).

Figure 1 ASEAN Member States: Specified Population Groups



Source: The World Population Prospect: The Revision 2012, UN Population Division

Rapid changes in innovations and technologies are creating changes in employment structures and occupational pattens in ASEAN member states. High proportion of professions and occupations requiring advanced skills are found across the region. It particularly notes that more advanced economies, such as Singapore, Brunei Darussalam and Malaysia, rely very little on the agricultural sector but highly depend instead on the service sector where higher skills are required (Table 3 in the Appendices).

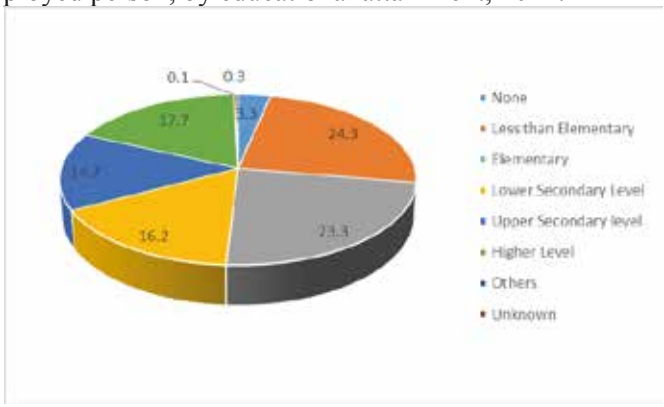
For several decades, Thailand has been a shining example of successful economic development in ASEAN, driven primarily by an expansion of employment in the industrial sector and capital investment. The vigorous transformation of the Thai Kingdom's economy has brought immense structural changes in the national occupational pattern. The country has been slowly shifting agricultural occupations with low-skilled labors toward professions demanding higher skills. The percentage of professionals and technicians and associate professionals, which require education and training equivalent to higher education, has been increased over years, from 7 percent in 2003 to 8 percent in 2012 (Table 4 in the Appendices)

Educational attainment of the Thai workforce has been constantly improved, thanks to their better access to education. The Thai government has been actively working to improve education in Thailand since the first National Education Development Scheme in 1932 (Russel 2007). They aim to promote a knowledge-based economy, focusing on innovation in scientific and high tech sectors. Since 2002, Thailand has successfully enforced the compulsory education that requires Thai citizens to attain at least 9 years of compulsory education under government support. Moreover, tertiary education has become much more assessable with the establishment of the student loan fund in 1996 (Lathapipat and Chucherd 2013).

Recently, the Thai government has formulated the Eleventh National Economic and Social Development Plan (2012-2016), placing a high priority on developing knowledgeable and skilled human capital. In the last ten years, the Ministry of Science and Technology supported more than 3,000 science and technology scholarships, from undergraduate to doctoral study, to incubate scientists and researchers in top universities and research institutions overseas. A number of programs have also been implemented to develop quality technicians and technologists through science-based technology schools, work-integrated learning program, dual system and cooperative education in universities, and Gifted Education through Science Schools (NESDB 2012).

Those efforts from the State have successfully added more labors holding qualifications into the national labor market. The average growth rate of the workforce with the Master degree level and higher in the period between 1991 and 2010 was 10.51 percent. In 2012, however, the percentage of employees who held high degrees in the Thai workforce increased to almost 18 percent (Figure 2).

Figure 2 Employed person, by educational attainment, 2012.



Source: National Statistical Office Database.

(Thailand's national classification of educational attainment and the National Statistical Office use the following categories: 1) "No education" refers to all persons who have never attended school; 2) "Lower secondary level" refers to all persons who have completed Matayom 3, which is the lower of secondary school; 3) "Upper secondary level": • "Academic" refers to all persons who completed Matayom 6 in a general education School; • "Vocational and technical" refers to all persons who have completed lower secondary school and then completed a three-year course in a vocational and technical college; • "Teacher training" refers to all persons who have completed the teacher training course and received a certificate equivalent to upper secondary level; 4) "Higher level" includes those who graduate the general/academic, vocational and teacher training levels).

Despite achievements in improving the years of schooling and better education, Thai workforce still lags behind, when compared with its neighbors such as Malaysia and Singapore. In 2012, while Thailand had approximately 8 percent of employed persons working as professionals and technicians, Singapore had 35 percent, followed by Malaysia with closely 20 percent (Table 5 in the Appendices). When the free movement of skilled labors comes into effect in AEC 2015, Thai workers, as a consequence, will become more vulnerable in the regional labor market. Currently, the majority of the Thai workforce is categorized as low-skilled with education below the lower secondary level (67 percent) (Chart 2). They will have to compete with more educated workers from low-wage countries in ASEAN coming to Thailand for employment search, such as Indonesia, the Philippines and Vietnam.

The Thai economy has become steadily more dependent on its export sector – specifically, of manufactured goods. Thai exports are expected to generate 70-80 percent of GDP in the period between 2015 and 2030 (Trading Economics 2013). Currently, Thai industries are attempting to move further up the global value chain and establish high-technology manufacturing. This will stimulate an increase in demand up to 250,000 skilled workers every year, particularly engineers, scientists and researchers of various disciplines. Automotive, electrical and electronics, software, alternative energy, biotechnology, medical services and healthcare are among industries with the highest demand for higher-skilled workers (The Economist 2012). However, the current status of the Thai workforce hardly meets this demand.

The large proportion of skilled workers in Thailand is reported to work in the agricultural and fishery sectors (between 30-40 percent) (Table 4 in the Appendices). Many employers indicated difficulties in filling professionals, higher-paying positions. Often, it took them five to seven weeks to fill a professional vacancy, and the difficulties are greatest in among exporters and firms with foreign direct investment. Employers also reported the lack of required generic and technical skills among applicants (The Economist 2012; World Bank 2006).

According to the latest labor force survey in Thailand in February 2014, most of unemployed persons had higher level of educational attainment (0.10 million or 1.3 percent), followed by those with lower secondary level (73 thousand or 1.2 percent), primary level (63 thousand or 0.7 percent), upper secondary level (57 thousand or 1.0 percent) and illiterate and less than primary level (34 thousand or 0.4 percent) (NSO 2014). This situation is different from Singapore, where the highest rate of unemployment is found among those with non-tertiary qualifications, followed by below secondary and secondary level (Ministry of Manpower 2014). The high percentage of educated Thais, who are unable to secure a job, strongly indicates that the Thai workforce not only lack of higher skills but also relevant skills for particular jobs. In order to solve the problem of skill shortage and skill mismatch, many multinational firms continue to bring in Thailand expatriate professionals (US Embassy 2014).

5.2 Communication Skills

As ASEAN countries are forging closer economic integration between its ten member countries and promoting stronger linkages to other key economies such as China, Japan, South Korea, India, Australia and New Zealand, communication skills as abilities to use English for communication are deemed essential.

In 2006, the World Bank conducted an enterprise survey with 1,043 manufacturing firms in Thailand and found that 64 percent of professional workers in surveyed firms were rated poor or very poor in their English language proficiency (World Bank 2006). A half decade later, although the English proficiency across Thailand have moved up 5 points, the country is still in the group categorized as 'very low proficiency', according to the recent report on English Proficiency Index released in November 2013 by the Education First Institute. This annual report attempts to rank countries based on the English language skills of their adults. Thailand placed at the 55th position, out of 60 countries surveyed. The progress that Thailand had made in the period between 2007 and 2012 is even lower than that in other ASEAN states such as Vietnam (Vietnam had scored up 7 points in the same period). Malaysia and Singapore scored quite well on the list, 11th and 12th position respectively (Education First Institute 2013).

Similarly, the Jobstreet.com, one of the leading Internet Recruitment websites in the Asia-Pacific, has recently run the JobStreet.com English Language Assessment (JELA). A total of 1,540,785 people, working in Singapore, the Philippines, Malaysia, Indonesia and Thailand, participated in the assessment. JELA consists of 40 questions randomly picked from the 1,000 questions of the programme. Thai workers, picked from all levels of employment (from the junior executives and senior executives to managers and senior managers), scored the lowest in English skills among counterparts in ASEAN (55 percent). Meanwhile, Singaporean workers scored highest at 81 percent, followed by Filipinos at 73 percent, Malaysians at 72 percent and

Indonesians at 59 percent. Keeping the dismal record consistent, many Thai workers who are working in the manufacturing sector could only manage 17% on average (The Nation 2013).

It is often found that shop assistants, service workers, even university-educated office employees are extremely reluctant to speak English to a foreigner needing assistance. Telephone calls from English-speaking customers are put on hold or given one transfer after another (Saiyasombut 2012). A recent report on Thailand's human resource competencies in the aviation industry has revealed that the failure among Thai employees in mastering English for effective communication has caused unnecessary delays in customer services, thus leading to business losses (Wattanacharoensil and Yoopetch 2012).

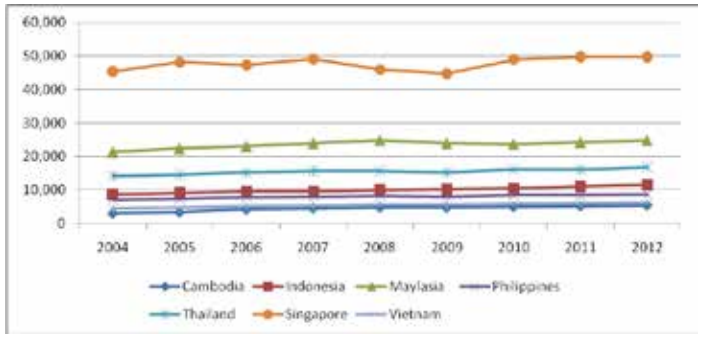
Many previous studies have reached a similar conclusion that English proficiency is a valuable asset for workers in order to compete in the era of increasing trade liberalization (Rooth and Saarela 2007; Kapur and Chakraborty 2008; Chiswick 2008, cited in Saraithong 2012). In their study on English skills among Indian workers, Kapur and Chakraborty (2008, cited in Saraithong 2012), for example, found that those who are fluent in English earn significantly higher relative wages and better occupational outcomes even for the same level of overall education. Looking back the case of Thailand, the relatively small number of competent adult English-speakers makes Thailand's international future seem gloomy in comparison to nearby countries, especially when the AEC's launch is approaching closely. The immediate effect would be that a large portion of employment in the mid-level labor market or the service sector in Thailand is taken by Filipinos given their higher percentage of literacy skills in English.

5.3 National Productivity

The limitations of its workforce are leading to comparatively low productivity in Thailand and offer Thailand non-promising hope to be a leading nation in the Southeast Asia. According the World Bank (2012), despite its achievements in economic development over the last two decades, productivity gains in Thailand have been relatively small and labor input has contributed to less than one-tenth of the growth.

Recent GDP per person employed of Thailand in 2012 was still far from competing with its neighboring countries such as Malaysia and Singapore (Figure 3). After showing little improvement between 2007 and 2009, GDP per person employed in Thailand slightly increased toward the end of 2012. However, the trend was least significant and fluctuated. Meanwhile other ASEAN countries, such as Vietnam, Cambodia, Indonesia and Philippines, posted solid increases during the same period (World Bank 2014).

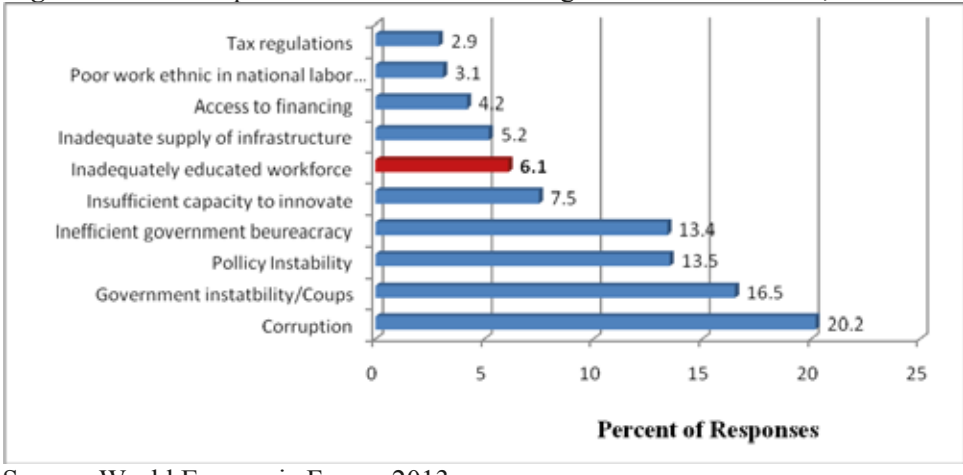
Figure 3 ASEAN Member States: GDP per person employed (constant 1990 PPP $)



Source: Synthesized by the author from the database of World Bank 2014

Labor productivity directly reflects the country's competitiveness. Unlike Indonesia and the Philippines demonstrate rapid improvement in terms of competitiveness, Thailand's overall competitiveness score has seen fluctuated in the last ten years. The Thai inconsistent performance reveals the country's struggle in dealing with the competitiveness challenges. A one-notch gain for the second year in a row was a result of a very small improvement in its performance (39th in 2011 to 37th in 2013), according the Global Competitive Index (GCI) 2013-2014 (World Economic Forum 2013). Meanwhile, Indonesia climbed 12 places, followed by the Philippines (6 places) and Vietnam (5 places). An inadequately educated workforce has persistently remained among the top ten most problematic factors for doing business since 2009 (Figure 4).

Figure 4 The most problematic factors for doing business in Thailand, 2013-2014



Source: World Economic Forum 2013

The GCI 2013-2014 report also reveals the poor performance of Thailand in some fundamental areas related to the national workforce. Thailand scored particularly poorly in the areas of 'health and primary education' (ranked 81 out of 148 countries) (Table 5). The enrollment in and the quality of higher education remain abnormally low (ranked 66). These scores imply a considerable need for improvement in workforce development via vigorous educational reforms. It is anticipated that the electronics industry in Thailand, for example, with exports of $US 49 billion and 200,000 employees, could shrink 50 percent in 3 years without educational and skill improvements (Fernquest 2012).

6. Conclusion and Policy Implication

Over the last two decades, the Thai workforce has seen significant changes in its structure and occupational patterns. There have been more workers holding higher qualifications in the labor market thanks to the state's efforts in higher education reforms. A sustained shift from agriculture to manufacturing, coupled with capital accumulation and skills-biased technological changes have resulted in a higher proportion of professionals and technicians in the national workforce.

However, such an achievement is still far from either meeting the demand of the national economic expansion on the ground or leading Thailand to efficiently compete in AEC. The majority of the Thai labors are still categorized as low-skilled with education below the lower secondary. A high percentage of skilled workers are found working in labor-intensive agriculture and fishery, rather than in more sophisticated manufacturing, such as electronics, computer parts, automobiles and parts, electrical appliances, machinery and equipment. Moreover, the high unemployment rate among university graduates strongly indicates that the Thai workforce is not able to provide skills which are relevant to some particular jobs.

As ASEAN states are moving closer to a fully-fledged community in 2015, communication skills and technical skills are equally important. Communication skills are considered, among other things such as reading and writing, collecting and using information to communicate with others, as an ability to speak English fluently. However, the Thai workforce score poorly in English proficiency test.

Skills constraints among Thai labors are impeding the national productivity and competiveness. The total GDP per persons employed in Thailand is far below than countries with the smaller population and workforce such as Brunei Darussalam, Singapore and Malaysia. Despite the overall competitiveness ranking going up by one notch, second time in a row, Thailand has shown a very small improvement in its performance and faces considerable challenges.

The weak position of the Thai workforce, comparing with ASEAN countries, has revealed the failure of the national education system and a lack of effective workforce planning, despite the country's long history of higher education reforms. Two third of Thai students are reported to enroll in humanities and social sciences programs whereas the needs are clearly in science and technology (Bardhan et.al. 2010, cited in Yilmaz 2010). More surprisingly, many companies in Thailand do not see universities as important sources of either employees or training. Linkages between firms and higher education institutes to foster employee quality are rather weak (World Bank 2006).

According to the World Bank (2014), skills needed for productivity and economic growth require a combination of education, training, and labor market activities. Deeper integration as a result from launching the AEC in 2015 could induce reallocation of investment and production of industries, with implication for jobs in the country. In order to reap the benefits and sooth the severe competition in the regional labor market, it is critically important to call for the role of the

Thai Royal Government in formulating more appropriate education and skills development strategies that enhance productivity and competitiveness. In this regard, Thailand can learn from experiences from other ASEAN members such as Singapore, Malaysia and Vietnam. Those countries have successfully created the environment for providers of training to respond to the needs of the labor market via the government incentives.

In Singapore, the Ministry of Education grants the Institute of Technical Education (ITE) with substantial autonomy. The ministry holds ITE accountable for graduates' employment. This governance arrangement has prompted ITE to use business-like practices to ensure efficient services and effective pedagogical approaches, forge and sustain productive ties with industry, routinely report on graduates' and employers satisfaction with its services through surveys. Vietnam has allowed new tertiary level institutions under public-private partnerships to emerge in response to the demand for high-quality employment-oriented training. In order to ensure on-the-job training in smaller firms, Malaysia and Singapore collect payroll levies and use the funds to encourage small and medium-sized enterprises to invest in worker training. In Malaysia, the Penang Skills Development Center is a partnership of several enterprise coming together to benefit from industry-specified training services financed through membership subscriptions, fees, and a government subsidy (World Bank 2014).

Country conditions invariably differ, thus requiring the Thai government has to act quickly to respond to specific needs of the national labor market. The above analysis aims to shed some lights on the current status of the Thai workforce prior to the launch of the AEC in 2015. This could be useful for the government to prepare its national workforce for the competition ahead.

7. Suggestions for further research

This research only focused on the English language efficiency among Thai workers. Therefore, future research should be required for other job-relevant skills, such as analytical skill, management skill, technical skill, teamwork skill, computer skill. These skills are important for the Thai workers to adapt to changing market and to benefit from innovations and investments in new technologies, clean energy, health, and infrastructure.

The future study should also focus on more specific research questions, such as what are the skills needed by employers in ASEAN and in order to increase employability in AEC, what are the skills that Thai workers should emphasize.

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Appendices

Table 1 The emerging landscape of market convergence 2012-2013

Country/Region	Population million	Gross Domestic Product (at current prices)		Estimated 2013 GDP US$ billion
		US$ billion	PPP$ billion	
ASEAN	616.6	2,311	3,619	2,526
EU-28	507	16,584	16,093	17,228
USA	314.2	15,685	15,685	16,238
China	1,354.00	8,227	12,406	9,020
India	1,223.20	1,825	4,684	1,973

* EU-28 includes: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, and United Kingdom.

Source: ASEAN 2013

Table 2 ASEAN Population

Unit: Thousand

	2015	2020	2025	2030	2035	Avg. Annual Growth Rate
Brunei Dar.	429	454	478	499	518	1.40%
Cambodia	15,677	16,947	18,120	19,144	10,104	1.00%
Indonesia	255,709	269,413	282,011	293,482	303,382	0.74%
Lao PDR	7,020	7,651	8,253	8,806	9,319	1.06%
Malaysia	30,651	32,858	34,956	36,846	38,471	1.45%
Myanmar	54,164	56,125	57,650	58,698	59,267	0.56%
Philippines	101,803	110,404	119,219	127,797	135,919	1.66%
Singapore	5,619	6,057	6,334	6,578	6,769	0.93%
Thailand	67,401	67,858	67,900	67,554	66,774	0.29%
Vietnam	93,387	97,057	99,811	101,830	103,293	0.65%
Total	**631,860**	**664,824**	**694,732**	**721,234**	**733,816**	

Source: UN Population Division 2013

Table 3 ASEAN Member States: Employment by Sector

Sector	Brunei Darussalam	Cambodia	Indonesia	Philippines	Singapore	Thailand	Viet Nam	Malaysia
	-2009	-2012	-2012	-2012	-2012	-2012	-2011	-2012
Agriculture, Fishery & Forestry	4.09	54.85	35.09	32.3	-	38.87	48.39	12.59
Manufacturing	5.74	13.13	13.87	8.3	13.62	14.72	13.85	17.51
Construction	27.72	4.97	6.13	5.8	4.96	6.32	6.4	9.15
Wholesales & Retail Trade, Restaurants, & Hotels	27.26	17.02	20.9	22.3	21.27	21.24	15.54	24.15
Transportation, Storage, Communication	5.04	4.48	4.51	8	13.85	3.03	3.34	6.55

Finance, Insurance, Real Estate and Business Services	8.03	0.41	2.4	4.7	21.37a	3.1	1.27	5.5
Public Services	11.38	3.25	15.43	17.6	23.64b	12.04	9.81	22.78
Others (Mining & Quarrying, Electricity, Gas & Water, Unknown)	10.75	1.89	1.67	1	1.3	0.68	1.41	1.77
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: ASEAN Statistical Database

Table 4 Employed person by occupation, 2003-2012

Occupation/Year	2003	2006	2009	2012
Legislator, senior, officials and managers	6.81	6.6	2.61	3.21
Professionals	3.47	4.14	4.03	5.13
Technicians and associate professionals	3.61	4.18	3.93	3.67
Clerks	3.4	3.52	3.97	3.48
Service workers and shop and market sales workers	12.9	13.54	17.13	19.1
Skilled agricultural and fishery workers	41.24	38.23	38.46	31.5
Craftsmen and related trades workers	10.67	10.35	11.51	12.32
Plant and machine operators and assemblers	7.52	7.97	7.33	8.72
Elementary occupations	10.34	11.31	11	12.67
Others	0.04	0.16	0.03	0.07
Total (In percentage)	**100**	**100**	**100**	**100**
Total (In thousands)	**34,676.40**	**36,344.50**	**38,371.50**	**38,516.40**

Source: Thailand National Statistical Office Database, http://web.nso.go.th

Table 5 ASEAN Member States: Employment by Occupation, 2012

Occupation	Malaysia	Philippines	Singapore	Thailand
Professionals, technical and related workers	19.89	7.4	35.67	8.38
Administrative, executive and managerial workers	5.39	15.9	17	3.53
Clerical and related workers	9.2	5.7	13.03	3.53
Sales workers and services workers	20.64	18.4	12.47	18.46
Agricultural, animal husbandry and forestry workers; fishermen and hunters	9.24	13.8	-	35.92
Production and related workers, transport equipment operators and laborers	23.28	38.5	18.48	19.18
Others	12.36	0.03	3.34	11.42
Total	**100**	**100**	**100**	**100**

Source: ASEAN Statistical Database

Table 6 Thailand Rank-Global Competitiveness Index

	2005-2006	2009-2010	2011-2012	2012-2013	2013-2014
Thailand Rank	**33**	**36**	**39**	**38**	**37**
Basic requirements (40.0%)	***34***	***43***	***46***	***45***	***49***
Institutions	40	60	67	77	78
Infrastructure	37	40	42	46	47
Macroeconomic environment	11	22	28	27	31
Health and primary education	85	61	83	78	81
Efficiency enhancers (50.0%)	***41***	***40***	***43***	***47***	***40***
Higher education and training	43	54	62	60	66
Goods market efficiency	-	44	42	37	34
Labor market efficiency	-	25	30	76	62
Financial market development	-	49	50	43	32
Technological readiness	49	63	84	84	78
Market size	-	21	22	22	22
Innovation and sophistication factors (10%)	***38***	***47***	***51***	***55***	***52***
Business sophistication	39	43	47	46	40
Innovation	38	57	54	68	66

Source: Synthesized by the author from the database of World Economic Forum, www.weforum.org