
Key Policy of Thailand Special Economic Zone

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To cite this article:

Noverio Cesar, Sari Wahyuni. Key Policy of Thailand Special Economic Zone. *Journal of Investment and Management*. Vol. 9, No. 3, 2020, pp. 80-91. doi: 10.11648/jjim.20200903.13

Received: September 29, 2019; **Accepted:** October 14, 2019; **Published:** September 17, 2020

Abstract: Indonesian government is now aiming to develop SEZs as investment destination that have special policy to attract foreign direct investment (FDI). This strategy is intended to bring higher economic growth as the country wants to boost the performance of manufacturing sector. However, there are some cases of unsuccessful SEZs as the government of the countries fail to develop competitive SEZs. Thus, it is important for Indonesia to learn from other countries, particularly its competitive neighboring countries, such as Thailand of how this country can develop its SEZs. Thailand is becoming the center of world class manufacturing through the development of SEZs. This qualitative study aims to gives ideas on how Thailand develops its SEZs by looking at several factors, such as political-economy landscape, industrial policy, investment services, growth of SEZs, global value chain participation, and green industrialization. This research finds out that SEZ's contribution towards FDI growth in Thailand has fluctuated in recent years due to political instability and tighten environmental policy. This study also reveals that Thailand has very clear industrial objectives with coherent investment incentive schemes as the main attractiveness for investors.

Keywords: Foreign Direct Investment, Special Economic Zones, Political-Economy, Industrial Policy, Investment Services, Growth of SEZ, Global Value Chain, Green Industrialization

1. Introduction

Indonesia is projected to be world's main economies in the future. Internally, Indonesia states its desire to be a developed country with independency over its economy and capability to increase the people's well-being [22]. One of challenges for Indonesia to achieve its goal is to avoid middle income trap [54].

To avoid middle income trap, Indonesia should be able to grow faster with better growth quality. This country should improve its export performance by eliminating its dependency on natural resources and start boosting its export on manufacturing products [29]. Some studies argue that countries who focus on manufacturing exports will grow faster than those that emphasize exports of primary products [4, 8, 19, 24]. Moreover, the countries that export, particularly those that focus on relatively high technological content exports can benefit from positive externalities that help the economy grow faster [37]. The sustainable economic growth can only be achieved by pursuing technological advancement and increasing productivity [51].

FDI in manufacturing sector is seen as a way to accelerate the increase of exports because foreign investors have superior international marketing network. In addition, Indonesia should attract FDI in manufacturing sector because the existence of foreign companies can also promote the transfer of know-how and transfer of technology in order to pursue sustainable economic growth [2].

Special economic zones can be seen as a tool which will enable Indonesia to attract more FDI as shown by other countries' empirical result. The initiative of developing economic zones in Indonesia had been started years ago as government wanted to promote economic growth. This country now is developing some types of economic zones, such as Free Trade Zone, Bounded Zone, Industrial Zone, Integrated Economic Development Zone, and Special Economic Zone [9].

However, there are also some criticisms about special economic zones. For example, there is growing concern on the real impact of special economic zones development for countries' economic. Even though SEZs receive many incentives from the government, there are some SEZs which fail to promote export, employment, and backward linkage

for the country [9]. Thus, Indonesia learn some lessons from other countries to avoid the failure of SEZs.

Based on the explanation above, it is clear that Indonesia needs to learn from other countries in developing their SEZs, including competitive neighboring countries, such as Thailand. Through the development of SEZs, Thailand has successfully developed its automotive industry as “The Detroit of Asia”. Thailand was the largest car producer in Southeast Asia and ranked 12th globally in 2016 [3]. Many international automotive companies (from Japan, U.S., Germany, India, China, Italy, U.K., Sweden) have chosen Thailand as their production base [40]. Thailand also had higher ranking of Ease of Doing Business in 2017 (Thailand: 26; Indonesia: 72) [55]. Thailand was superior in starting a business, getting electricity, protecting minority interest, paying taxes, trading across borders, enforcing contracts, and resolving insolvency compared to Indonesia. Thus, it is important to learn from Thailand of how this country developing its SEZs as the economic growth engine for the country.

2. Research Model

SEZs are specific defined duty-free area and considered as foreign region for the trade, duties, and tariffs purposes [7]. Moreover, SEZs are employed to promote the trade and financial liberalization, improve resource utilization, and drive economic growth and structural changes [16]. SEZ is the general definition that includes recent iterations of traditional commercial zones [38]. There are several specific characteristics of SEZs [1]:

1. It has defined geographic territory
2. It has single administration
3. It has tax benefits offered for the business in the zone

4. It offers an autonomous customs zone with simpler procedures and duty-free benefits
5. It provides more liberal economic and juridical regulations than the rest of the economy

The formation of well-designed SEZs is claimed to bring many benefits for the host countries, such as increasing employment, boosting foreign direct investment inflow and foreign exchange earnings, promoting economic growth, increasing global exposure, helping the transfer of new technologies and skills [36].

The success factors of special economic zones are favorable business environment in the zones, strategic location, technology upgrading and skills training, and strong linkage with local economy [58]. It is also important for the special economic zones to promote environmental protection in order to stimulate sustainable growth for the companies inside the zone [48]. In addition, Porter’s Diamond of Competitive Advantage states that SEZs’ competitiveness is defined by several factors, such as clear government policy, input factors conditions, demand conditions, availability of supporting industries, and the existences of institutions for collaboration [12].

Based on the literatures above, we developed a framework model to see how a country develop SEZ and increase the competitiveness as represented in Figure 1. This study also employs Structure-Conduct-Performance framework to see the role of each variable. The political-economy landscape and industrial policy are viewed as the structure or base for SEZs development. Those variables are then transformed as investment services offered by SEZs. The performance is then viewed by looking at the growth of SEZs, global value chain participation, and green industrialization development.

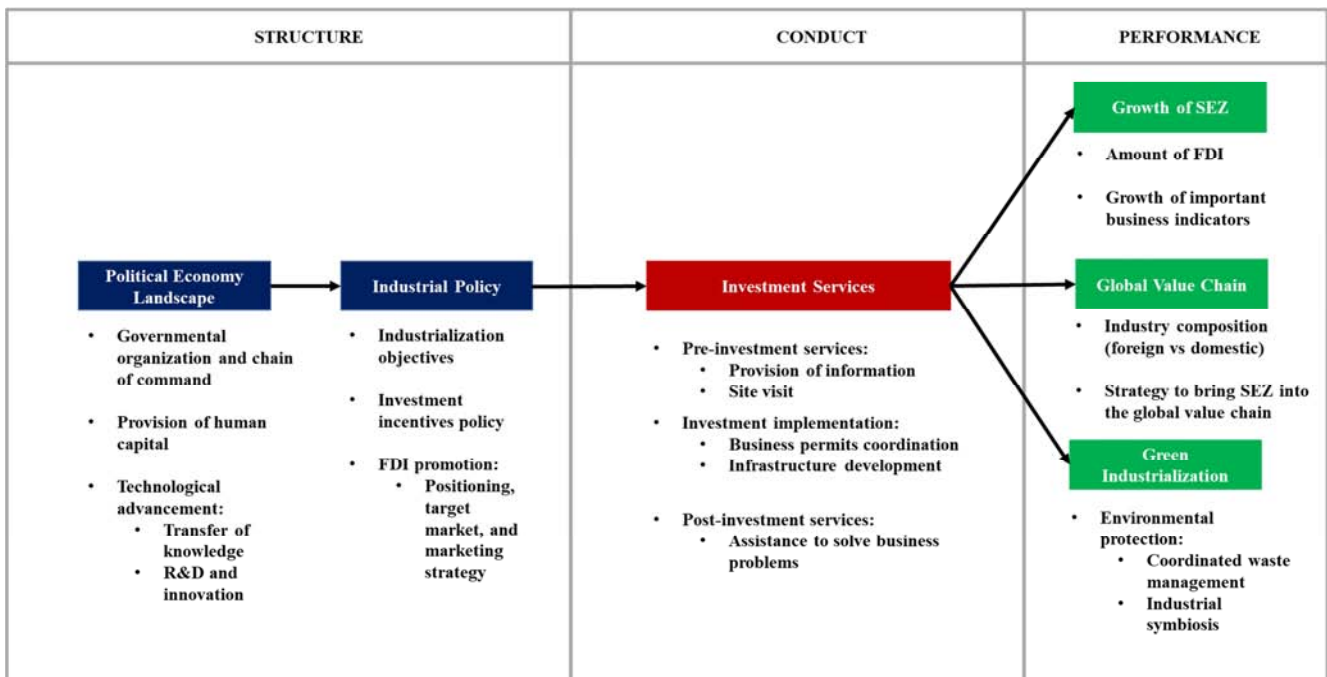


Figure 1. SEZ Competitiveness Model.

Started in 1990s, the FDI researchers also focused on the role institutional factors as the determinant of FDI attractiveness. The explanation of relationship between institutions and FDI is based on economics point of view. It is related to the comparative costs of doing business between one and other countries [25]. The influence of institutions, in the form of government policies or other eminent institutional factors can increase or decrease costs, and finally affect profitability [35].

Country's attractiveness in attracting FDI is also defined by the quality of its human resources. It is assumed that well-trained and well-educated employees will have higher capability to adapting the usage of new technology [33]. Government's initiatives in developing human resources in the country are important to keep competitiveness of the workforce [14]. Government can also encourage firms to provide skills training by giving certain incentives. Government can also give policies to attract foreign skills if the certain talents are not available locally [58].

Besides providing good-quality workforce, countries should be able to maximize the presence of foreign companies to develop local capabilities. For all countries, regardless of level of development, the technological progress is a critical factor to the economic growth and welfare. To put developing countries on a path of sustainable growth and poverty reduction, it is very important to close the technological gap between developing and developed countries. The direct interaction of multinational and domestic firms allows the occurrence of transfer of technology, not only in the form of hardware transfer but also in the form of spillover of knowledge, productivity, and rent [30].

Industrial policy is explained as the tactical attempt by country to stimulate the development and growth of economy [10]. Industrial policy is defined as a concerted, focused, conscious effort on the part of government to encourage and promote a specific industry or sector with an array of policy tools [47]. Industrial policy insists policy-makers to have capacity in both defining the vision of country's industrialization development path and implementing a set of actions in order to move country's economic system into the particular path. The analysis of industrial policy also involves the recognition of its aims. Not only does growth matters (following a specific growth path), but also what type of growth (along the same growth path or toward new growth paths) [5]. As part of industrial policy, countries should be taking care at how they give investment incentives and build FDI promotions. Investment incentives are divided into two groups, which are tax incentives and non-tax incentives and come from national or local government institutions [52].

Investment promotion activities done by investment promotion agency has positive impact for investment growth in a country. As an example, promotion agency of Bogota City in Colombia (called as Invest in Bogota) had influenced the number of inward FDI projects in Bogota. It showed by the number increase of investment projects from 2.8 per quarter in between 1st quarter of 2003 and 3rd

quarter of 2006 to an average of 8 projects per quarter in between 3rd quarter of 2006 and 4th quarter of 2011 [51].

There are three parts of investment services [27]:

(1) Pre-investment services;

In this stage, investors may be provided with complete information ranging from location and property availability, to the quality of domestic suppliers, the workforce, transport and telecommunication infrastructure, and energy resources [27]. This service is also including the facilitation of country visit and site visit for the investors [50].

(2) Investment implementation services;

Investors are served with guidance and support to build their projects in this stage. Some agencies in some countries also provide "one-stop shops" service as investment implementation service in which investors could make arrangements to get all project approvals and permits [50]. The effective "one-stop shops" accompanied with clear single-point authority can be a significant factor in attracting investment, particularly if this service can cut overall costs in establishing business [32].

(3) Post-investment services.

The post-investment services or after-care is a key area of policy to generate new investments or escalate the quality of existing projects over time. The objectives in this stage are supporting re-investment, increasing the value of the investment to the host country, and generating new leads [27]. Good post-investment service and policy advocacy, including applying investors' feedback can be vital decision-making factors of re-investment and improve business climate [32].

Measuring the growth of Special Economic Zones is very important as government needs to know how effective the zones in contributing to the country. There are three indicators in assessing the success of Special Economic Zones [15]:

(1) Static economic outcome

This outcome indicator is assessing the short-term impact of special economic zones as an instrument to stimulate trade and investment activities. It includes primarily investment, employment, and exports.

(2) Dynamic economic outcome

It includes transfer of technology, integration or linkage to domestic economy, and structural change (diversification, upgrading, and increased openness).

(3) Socio-economic outcome

This indicator shows the quality of employment created, and job creation equality in terms of gender in the zones.

The development of international production network has been one of the main features of current trade flows. It has been giving rise to new sorts of specialization and vertical association between countries. Nowadays, the highly complex manufacturing firms rely on components made in advanced countries and linked by a web of production network [31, 39]. Emerging economies are also starting to move production phases towards other

developing countries, and there is evidence of some re-insourcing taking place [13]. This value chain development can be perceived as a catch-up strategy for enterprises in developing countries [18]. However, the main aim of lead firms is not necessarily to upgrade the local firms in developing countries [34]. Industrial upgrading for local firms in developing countries is not an involuntary result of being engaged in global value chain [21]. Therefore, government should take actions in providing necessary policy and regulatory interventions to ensure that the existence of Special Economic Zones can increase the linkage of local and foreign companies [53].

Global firms and governments are developing the concept of green and inclusive industrialization. This concept brings up a valuable pathway to combine sustainable economic growth, more inclusive incomes, and an enhanced environment within a broader green economy strategy [48]. Thus, it is very important for governments in developing countries to ensure that the SEZs can be sustainable and has the capability for cost internalization [49]. Government and industries can initiate the development of integrated waste management and industrial symbiosis in the SEZs. They way to implement these is by encouraging government and industries to integrate sustainable practices, comply with environmental regulations, and select and apply suitable technologies and management programs to achieve realistic goals and objectives of waste management [17]. The

industrial symbiosis (IS) concept is aimed to attain benefits in many aspects. In the economic dimension, the cheaper sourcing, avoiding disposal costs, and/or gaining additional profits from the sale of by-products will benefit companies. In more general perspective, the implementation of IS will increase resource efficiency by producing more outputs with the same level of raw materials [20]. The implementation of green industrialization can be also be a determining success factor for SEZs development.

3. Methodology

Since the aim of this study is trying to gain deep understanding on the key success factors of Thailand, we therefore use qualitative approach. We conduct in-depth interviews and literature studies as the research techniques in order to answer the research question of how Thailand develops their Special Economic Zones. The in-depth interview is constructed as semi-structured interview. This research ensures the validity by using interview transcripts, public records and documents as a method of triangulation.

This research explores the experiences of Bang Poo Industrial Estate and Thailand’s Board of Investment (BOI) as the respondents of this case study to gain knowledge’s of practice in the whole country. Bang Poo has been chosen as the sample of this study because this is the first SEZ that have been developed by Thailand state own enterprise.

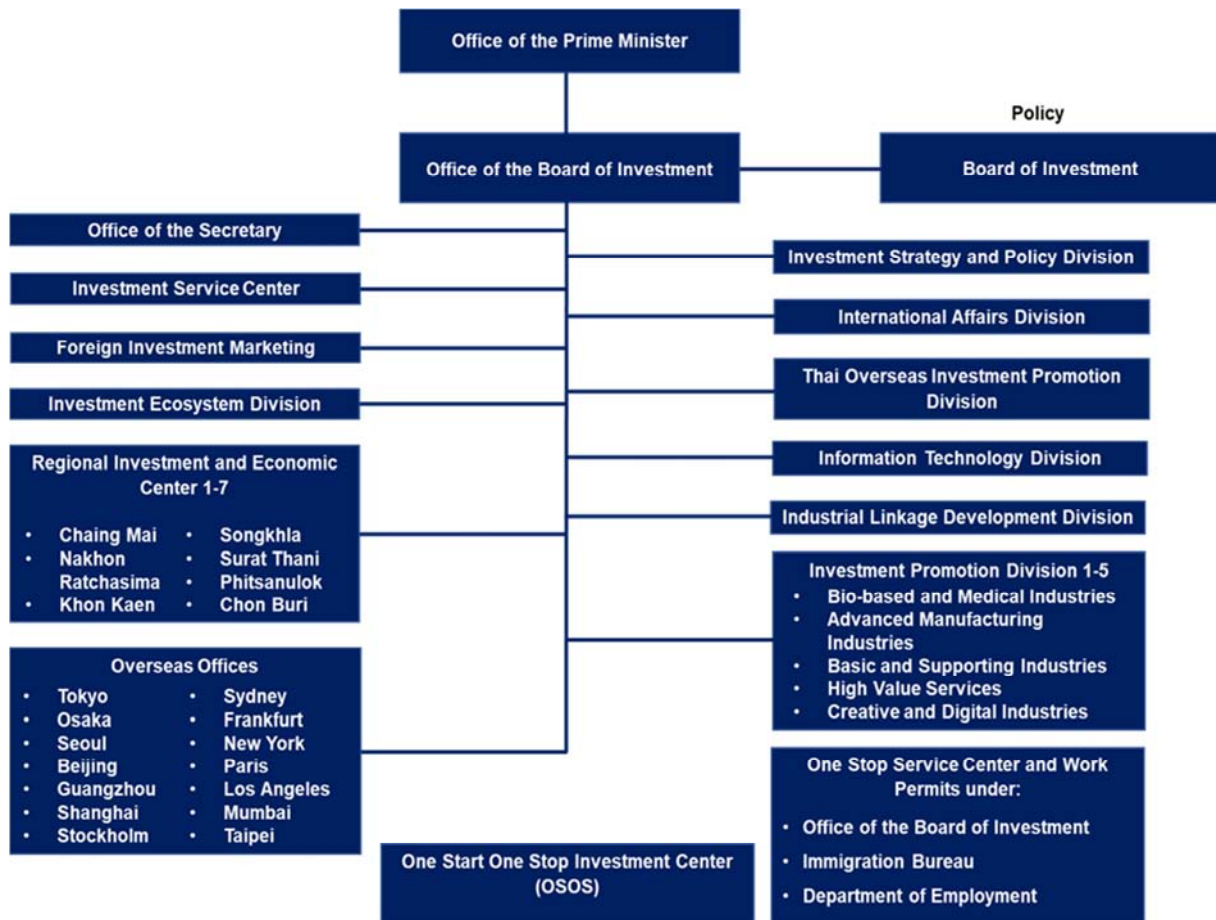


Figure 2. Organizational Structure of Thailand Board of Investment [44].

4. Findings and Analysis

We will discuss the result by following SCP model as explain in the earlier section.

4.1. Political-Economy Landscape

Thailand embraces constitutional monarchy system with a parliamentary democracy. The head of government is the prime minister, who usually comes from the majority of political party, while the king acts as the head of state. As the head of state, the king has self-determined power through the parliament, the cabinet, and the courts, under the provision of the Constitution [11].

Thailand has been struggling to provide political stability since military coup in 2006. In 2014, the military junta took over after years of political violence on the streets between the pro-Thaksin Red Shirts group and the Bangkok's ruling elite-Yellow Shirts group. Even after the ratification of a new Constitution, the jury still doubted its impact on taking back political stability to this country.

This situation resulted in a poor image of doing business in Thailand. Based on World Economic Forum's report of Global Competitiveness Index 2017-2018 Edition, the government instability or coup was ranked 1st as the most problematic factor for doing business in Thailand [56].

4.2. Organizations

The Office of the Board of Investment of Thailand is a government agency which is under the Office of the Prime Minister. It has main responsibility of promoting direct investment, both inward investment in Thailand and Thailand outward investment. The Board of Investment itself has responsibility to specify the investment promotion policies under Investment Promotion Act B. E. 2520 and Amendment Acts No. 3 B. E. 2544 and No. 2 B. E. 2534 [41].

"The head of the Office of Board of Investment is the General Secretary. Our role and responsibilities are to promote direct investment to come to Thailand and Thailand overseas investment by providing tax and non-tax incentives." (BOI)

Bang Poo Industrial Estate is developed and managed by Industrial Estate Authority of Thailand (IEAT). IEAT is a state-owned enterprise under the Ministry of Industry which has responsibility of developing and establishing the industrial estates in Thailand. Industrial estate is defined as a land area for various industrial factories to be set up in a well-organized manner. IEAT is also acting as the governmental mechanism to decentralize industrial development to provincial areas throughout Thailand with industrial estates as the implementation tool.

4.3. Provision of Human Capital

Thailand government is now focusing on the development of knowledge-based activities in its Thailand 4.0 program. This program requires qualified and high-skilled human resources. It is important for the government to provide guidance for the investors to find the required human resources in the field of science and technology. Thus, private companies, both local and foreign enterprises can utilize the pool of researchers in building their technological capabilities. Therefore, The Board of Investment has established the Strategic Talent Center (STC) to fulfill these needs. In addition, it also offers assistance for foreign science and technology specialists to take care of visa and work permit. Thailand government is actively providing some schemes of human capital development program as incentives for the investors. For example, under Eastern Economic Corridor (EEC), Thailand has such programs as shown in the table below:

Table 1. List of Human Resource Development Program to Support EEC [44].

Human Resource Development Program	
Talent Mobility Program (TM)	Collaborative research-matching services between the public and private sector
Work Integrated Learning (WiL)	Collaborative educational services between educational institutes and the private sector in the form of Public Private Partnerships (PPP)
Dual Vocational Training (DVT)	Vocational education institutes establish agreements with private enterprises to create effective curriculums, training, testing, and evaluation for students to gain practical working experiences
Cooperative Education (for graduate study, university, and college)	Combining the classroom-based education with practical work experience

4.4. Technology Advancement

"To ensure the research and development, and innovation are taking place, we establish cooperation with foreign companies, such as investors from Japan and Germany. They set up institutes to support technologies, and education. The universities cooperate with Ministry of Industry to create training center program. We have institutes of textile, or jewellery under the Ministry of Industry. The industrial estates also give their land to build institutes." (BOI)

Thailand also use university-industry linkage scheme to support the transfer of knowledge and technology to local people. Seagate, the producer of hard disk drive has cooperation with Khon Kaen University, and Suranaree University of Technology to open research and development center. Seagate Technology also provides assistance with curriculum development and selected trainers, while universities provide the facilities and most of teaching resources [6].

4.5. Industrial Policy

4.5.1. Industrialization Objectives

Thailand has experiencing some economic models through years. It was started with “Thailand 1.0” which focused on developing agriculture sector. It evolved to “Thailand 2.0” which focused on growing the light industries and utilizing cheap labor cost as the competitive advantage to fulfil domestic demand. Then it developed “Thailand 3.0” which focused on building more complex industries to attract foreign direct investment and making Thailand as a production hub for exports. However, under the latter economic model, Thailand has faced middle-income trap, growing disparities, and imbalanced development. Based on these problems, Thailand government transforms its economic model into “Thailand 4.0”. Thailand is focusing to become a value-based and innovation-driven economy by moving from producing commodities to innovative products; emphasizing on promoting technology, creativity, and innovation in targeted industries; moving from production-based to a serviced-based economy [46].

“Thailand has passed three economic models. The present is Thailand 3.0 which emphasizes on heavy industries to boost macroeconomic growth. During this period, I frankly speak that Thailand has been stuck in the middle-income trap. So then, the Prime Minister, and the government of Thailand have

created Thailand 4.0 to focus on valued economy.” (BOI)

Thailand 4.0 model has four objectives [46]:

1. Economic prosperity

The value-based economy concept is driven by innovation, technology, and creativity. Thailand aims to increase the research and development expenditure to the level of 4% to GDP, economic growth rate of 5-6% within 5 years, and increase national income per capita from 5,470 USD in 2014 to 15,000 USD in 2032.

2. Social well-being

Thailand wants to create an inclusive economic growth through the realization of the full potential of all society members. It wants to reduce social disparity from 0.465 in 2013 to 0.36 in 2032, transform social welfare system within 20 years, and develop more than 20,000 households into “Smart Farmers” within 5 years.

3. Raising human values

Thailand wants to improve its Human Development Index from 0.722 to 0.8 or the top 50 countries within 10 years, ensure that more than five Thailand universities are listed in the world’s top 100 universities within 20 years.

4. Environmental protection

Thailand wants to develop economic system which is capable to adjust to climate change and produce low carbon. It wants to develop more than 10 cities into the world’s most livable cities.

4.5.2. Developing Industries

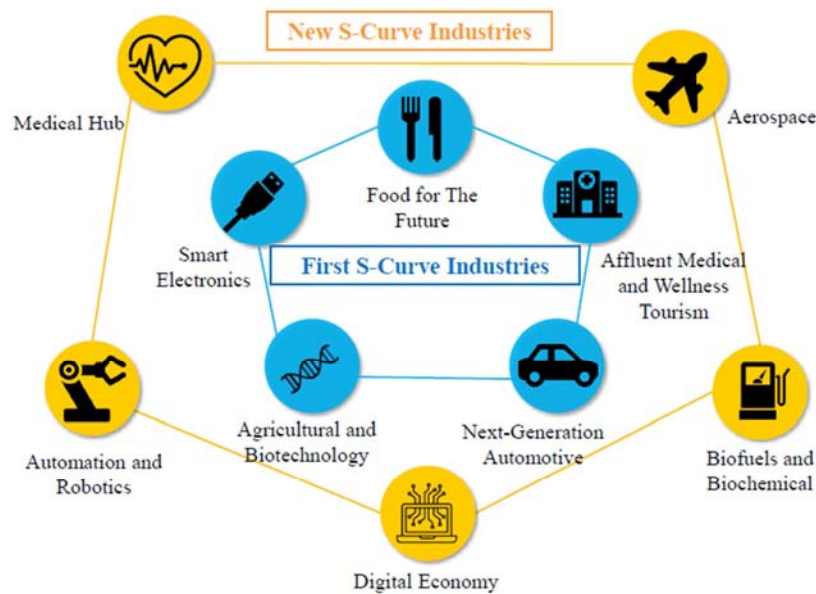


Figure 3. Thailand Targeted Industries [42].

Under its Thailand 4.0 program, there are 10 targeted industries which will be developed in this country. Those 10 targeted industries are divided into two segments: (1) developing existing industrial sectors by adding value through advanced technologies for five industries, those are Next-Generation Automotive; Agricultural and Biotechnology; Smart Electronics; Food Innovation; High-Income Tourism and Medical Tourism; (2) second segment

consists of:

i. Digital Industry

The country will support the businesses in the field of embedded software, enterprise software, and digital content. The creative media and animation industry are also the main focus of Thailand.

ii. Robotics Industry

The focus will be on the automotive industry robotics,

injecting molding robotics, and specialized robotics.

iii. Aviation and Logistic Industry

It focuses on: (1) transportation facilities, utilities, and services; (2) modern logistics centres; (3) maintenance, repair, and overhaul facilities; (4) aviation training center for pilots and cabin crew, technicians, and ground crew.

iv. Comprehensive Healthcare Industry

It consists of three components: (1) new and modern services, such as e-Health and m-Health services; (2) research and production of medical tools; (3) research and production of medical supplies.

v. Biofuel and Biochemical Industries

Thailand is enhancing the development of second-generation biofuels (biofuels not derived from food substances), and making way to the development of third-generation biofuels (biofuels which are produced from

strands of cultivatable strands of seaweed).

4.5.3. Investment Incentives Policy

"Foreign companies can do business freely in Thailand. But if they need incentives from the government, they need to apply for the Board of Investment promotion. I have the list of activities that will be eligible for BOI promotion, not everything can be promoted by the Board of Investment." (BOI)

In general, Thailand Board of Investment has two investment incentives schemes, those are tax incentives, and non-tax incentives. However, there are several criteria to be met by investors to get the tax incentives. These criteria are based on some components, such as type of activities, type of innovations, and area development. Here is the list of investment incentives offered for investors in Thailand:

Table 2. List of Types of Incentive [41].

Tax Incentives	Non-Tax Incentives
1. Exemption or reduction of import duties on machinery	1. Permit to own land
2. Import duties reduction for raw or essential materials	2. Permit to take out or remit money abroad in foreign currency
3. Import duties exemption on imported materials for R&D purposes	3. Permit to bring skilled workers and experts into Thailand to work in investment promoted activities
4. Corporate income tax exemption on the net profit and dividend derived from the promoted activities	4. Permit to bring foreign people into Thailand for the purpose of studying investment opportunities
5. Corporate income tax exemption on net profit and dividends derived from the promoted high technology and innovation activities	
6. 50% reduction of corporate income tax	
7. Double deduction from the costs of transportation, electricity, and water supply	
8. Additional 25% deduction of the installation costs or construction costs	
9. Import duties exemption on imported raw or essential materials for exported goods production	

Thailand Board of Investment combines tax and non-tax incentives to attract inward investments in this country. Non-tax benefits are granted to all projects receiving BOI promotion, regardless of the type of activity or conditions. On the other hand, the tax benefits are granted to the projects based on the group classification of activities and the merit of the project [12].

4.5.4. Foreign Direct Investment Promotion

The Office of Board of Investment of Thailand is handling the responsibility to promote direct investment, both inward and outward investment. For the positioning and targeting strategy, it is clear shown in the industrial objectives that Thailand wants to be the innovation hub at the heart of Southeast Asia. It also targets the investment from high-tech companies by providing many incentives packages for the research and development, innovation, and training activities done by those companies. To do the promotion, as seen in its website, Thailand Board of Investment are actively involved in international seminars, conferences, and business submit to give presentation about Thailand as an investment destination.

4.5.5. Investment Services

i. Pre-Investment Service

The Board of Investment of Thailand is the contact point for the investors who want to start their investment in Thailand. This government agency can give assistance in the pre-investment phase by:

1. Providing comprehensive information and consultancy

about establishing business in Thailand

2. Arranging on-site visits for investors to look at the potential locations
 3. Giving advice to investors in identifying potential business partners, such as suppliers, subcontractors, and joint-venture partners
 4. Providing contacts with key public and private organizations
 5. Coordinating the foreign business community and other public agencies
- ii. Investment implementation services

Thailand has some platforms and policies to help the investors in realizing their investments. Those services are aimed to make the business process and procedures easier so that many investors will come to Thailand. In addition, Thailand's investment promotion regime has been claimed as one of the most successful in Asia, due to government policies' consistency in supporting the private sector [41]. These are some platforms and policies developed by Thailand government to support investment implementation:

1. One Start One Stop Investment Center (OSOS)

This service has been operated since November 2009. It has a wide range of services to help the investors, those are:

- a. Helping the investors to understand what requirements needed to be fulfilled to register a company in Thailand
- b. Obtaining investment promotion privileges
- c. Obtaining foreign business certificate
- d. Completing environment impact assessment
- e. Requesting permission to use land for industrial

- operation
 - f. Obtaining utilities, etc.
2. SMART Visa

This service has been effectively in-charge since February 2018. It is the newest service launched by Thailand Board of Investment to support the new economic model, “Thailand 4.0”. SMART Visa is a new type of visa designed to attract high-skilled experts, investors, and senior managers to help accelerate the development of county’s 10 targeted industries. These are the categories of this new visa:

Table 3. Summary of SMART Visa [41].

Visa Type	Category	Purpose
SMART	T	Highly-skilled Experts (Talents)
	I	Investors
	E	Senior Executives
	S	Start-up entrepreneurs
	O	Spouse and Children of SMART Visa holders

iii. Post-Investment Service

“Board of Investment itself cannot solve the problem. Ministry of Interior take care most of the problems. However, sometimes we set up Urgent Commission to solve the

problem. We coordinate some representative from many related ministries and discuss together what will be the solution for the problem.” (BOI). On the other hand, the Bang Poo Industrial Estate management team also provides post-investment services, such as new law socialization, assistance in handling permits renewal every five years, and support in overseeing law adherence of the companies inside the zone.

4.6. Global Value Chain

The success story of Thailand companies to move up to the global value chain cannot be separated from the government’s initiatives. The Board of Investment of Thailand established BOI Unit Industrial Linkage Development (BUILD) in 30th of June 1992. Its roles are to support industrial linkage and usage of industrial parts manufactured in Thailand. It connects Thai small and medium suppliers to large foreign manufacturers. This function does not only help the procurement process but also production cost saving by promoting the purchase of domestically produced products and decrease import costs. Graphic below shows the key services of BUILD:

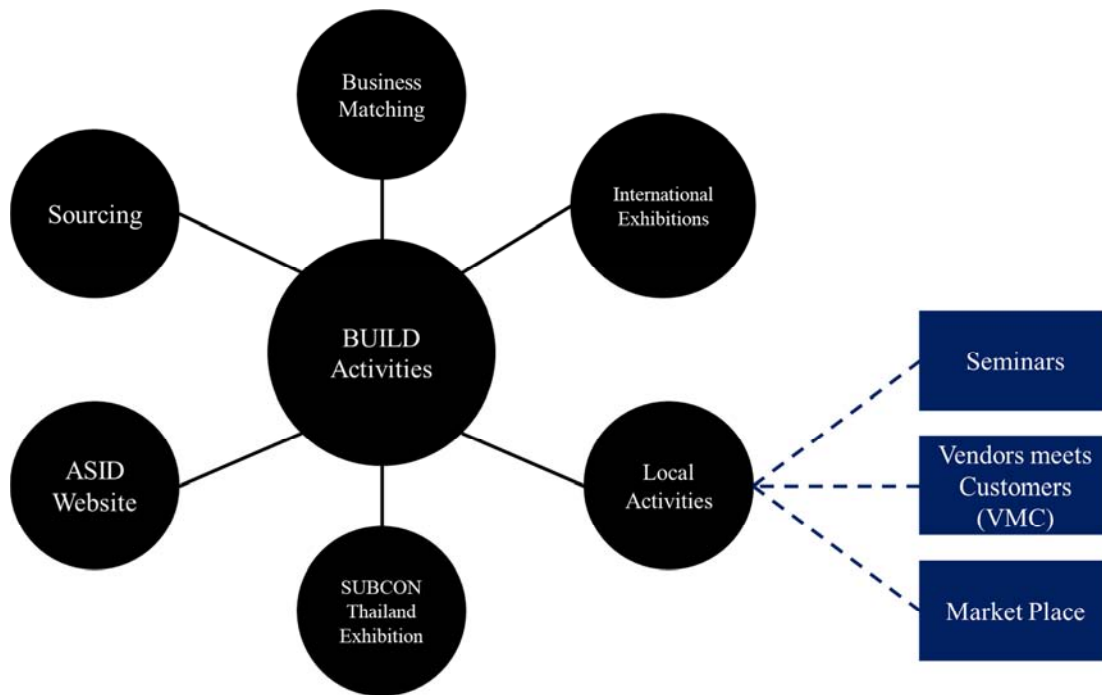


Figure 4. BUILD Activities [45].

Thailand government also actively supports the development of local industries through incentives in order to move up to global value chain. *“Thai companies, most of them were SMEs (tier 2 or tier 3), did subcontract for supplying automotive parts. It is all about the standards. We try to help them by pushing the companies who get our promotion to pursue ISO 9000 certification. They need to get ISO 9000 within two or three years before we withdraw them. It has been our idea in the last 20 years.” (BOI)*

4.7. Green Industrialization

In 2010, the Ministry of Industry of Thailand launched Eco Industrial Town development program. This program was started in five regions, then expanded to six other provinces in 2013. This program consists of three levels of green industrial transformation: (1) Green Industry at a factory level; (2) Eco-Industrial Estate at an industrial estate level; and (3) Eco Industrial Town at a community level [28]. To promote the implementation of green industry at factory level, the Ministry

of Industry of Thailand has benefit scheme:

Table 4. Incentives for Green Industry Program [28].

Contacts	Conditions	Benefit
Department of Industrial Works	1. Has Environmental Management System certificate (TIS 14001 or ISO 14001)	5-year exemption of annual fee
	2. Has Occupational Health and Safety Management System certificate (TIS 18001)	
Department of Industrial Works	1. Producing biogas from waste material 2. Waste heat recovery from the manufacturing process	5-year exemption of annual fee
Board of Investment	Invest in: 1. Business of energy saving and renewable energy 2. Business of environmentally friendly products manufacturing	Investment promotion Exemption of machine import duty 8-year CIT exemption Income tax exemption
Board of Investment	Investing in energy saving machine by: 1. Using technology to decrease energy usage 2. Using renewable energy 3. Decreasing environmental impact	Investment promotion Exemption of machine import duty 3-year CIT exemption Income tax exemption

4.8. Growth of SEZs

These are some graphics that show the performance of

industrial estates managed by IEAT in the period of 2014-2016 based on IEAT annual report in 2016:

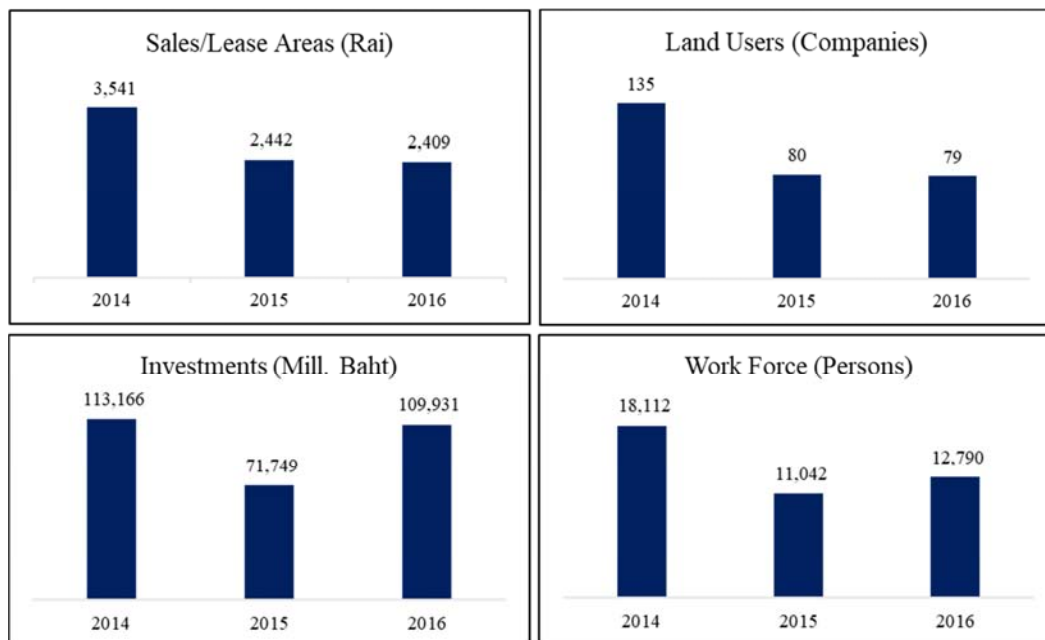
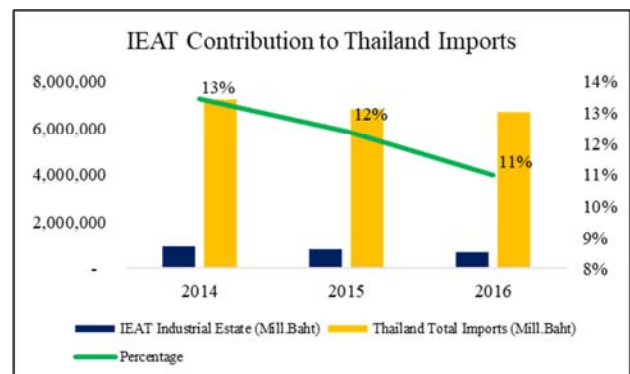


Figure 5. IEAT's Industrial Estate Performance in Sales, Land Users, Investments, and Workforce [23].

From the graph above, we can see that the performance of IEAT's industrial estates in 2014-2016 period was fluctuated. The total area sold, land users, investments, and number of workers in its industrial zones were declining. Between 2013-2015, the industrial estate sector was not in a good condition due to some factors, such as: (1) Thailand's declining exports which hurt the overall economic performance, (2) investment decline due to disturbance in Thailand politics between 2010 and 2014, (3) higher requirements related to environmental and health impact assessment, following a bad air pollution at Map Ta Phut industrial estate in 2007 [26]. Nevertheless, the condition was getting better in 2016, as also seen in the charts above.

However, IEAT industrial estates were still important for Thailand's trade performance. In 2014-2016 period, the

industrial estates of IEAT maintained its contribution of more than 10% to Thailand's total exports and imports value.



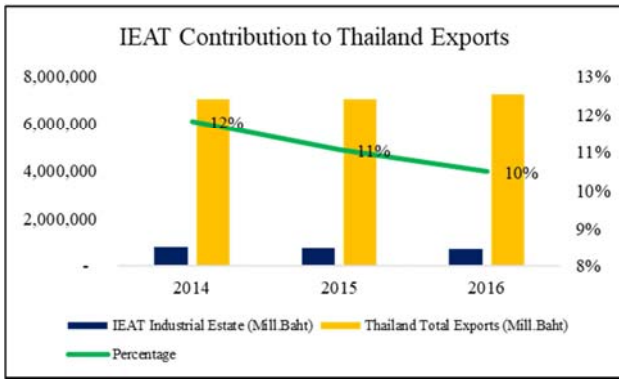


Figure 6. IEAT's Industrial Estate Contribution to National Imports and Exports [23].

5. Conclusion

Based on the above explanation, we develop Figure 6 as a summary of Thailand SEZ policy and implementation. We may conclude that Thailand heavily relies upon tax incentives in attracting investors. Moreover, the strongest point of Thailand is its industrial policy's clarity. It offers clear incentive schemes, plenty of investment services, and

strong strategy to promote local companies.

Thailand's success story in SEZs development is started with its political economy landscape. There is clear responsibility separation between organizations involved. The central government's role is transferred through the establishment of two main organizations. Thailand Board of Investment (BOI) has responsibility to promote investments in Thailand, including the formulation of investment incentives. The development and management of SEZs are handled by Industrial Estate Authority of Thailand (IEAT), with participation from private companies.

The collaboration between government body and private companies in SEZs development has some benefits for Thailand. It promotes the competition between SEZs which will result in the improvement of investment services. The existence of government organization can increase the responsiveness of government in handling investors problems which will also result in continuous improvement of services. It might be a very important aspect of retaining foreign companies to stay in the zones and attract more companies to come to the zones.

THAILAND

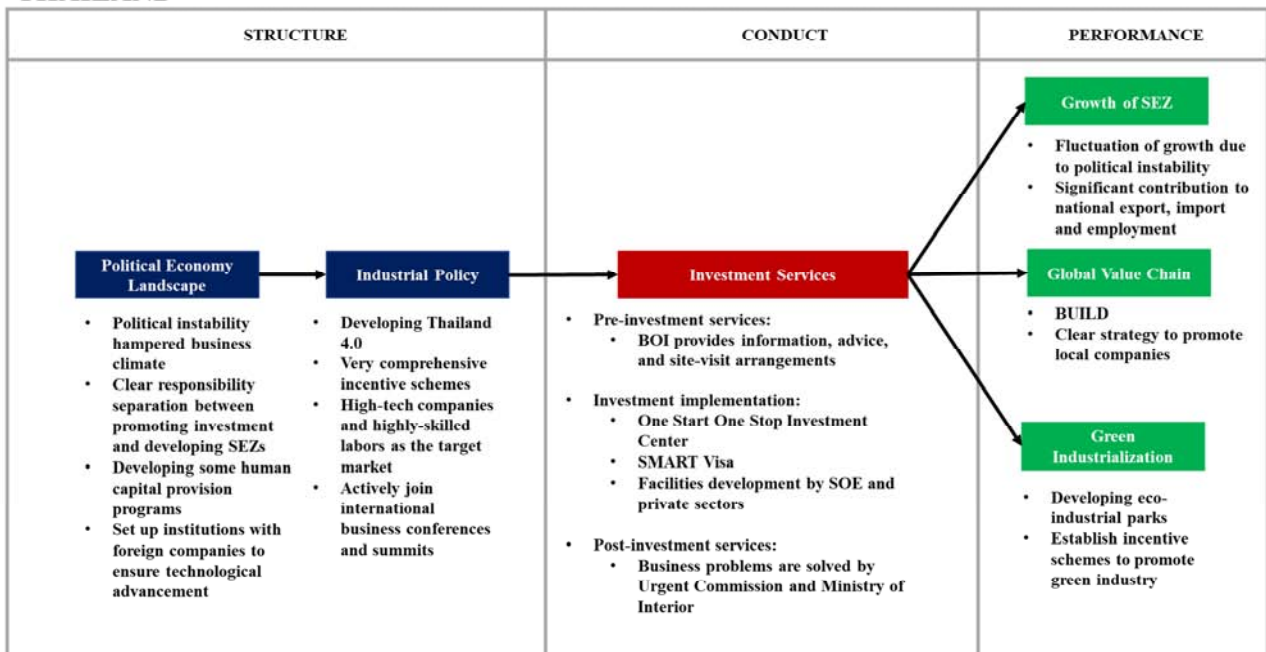


Figure 7. Conclusion.

The clear industrial objectives and policies lead to clear positioning of Thailand SEZs and incentives schemes offered to investors. The strong coordination between BOI and IEAT leads to good delivery of investment services to the investors through innovative programs, including human resource development programs and local company promotion. It results in superior global value chain participation of local companies. The close linkage to the local economy promotes the technological transfers and further human resource development in Thailand through education-industry linkage.

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