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"Renewed Effort to Develop Special Economic Zones in Northeast Asia: Comparing Shanghai Pilot Free Trade Zone, Incheon Free Economic Zone, and Tokyo Strategic Special Zone"

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1. Introduction

1.1 Background

As early as the 1580s, the Italian Renaissance town Livorno was declared a free port, where goods could be traded on duty-free basis within the area of the town's control (Tazzara, 2017). In 1706, the port of Gibraltar was made a free port after the Brits took over, allowing international ships to trade freely without paying any tax (FIAS, 2008; Farole, 2011; Tiefenbrun, 2013). These cases are the earliest forms of special economic zones (SEZs) in history, but the first modern model of SEZs is widely recognized to be set up in Shannon Ireland in 1959, when the Irish government transformed it into a duty-free zone with manufacturing facilities to save local jobs (Farole, 2011; Zeng, 2012). Since the 1970s, more and more developing countries in Asia and Latin American started to set up SEZs to promote exports, attract foreign investment and generate employment. Over the years, there has been a constant evolvement of SEZs in number, scale and variety. It is estimated that 75 percent of countries in the world now has SEZs, which number at least 4,000, and China is the most prolific (Bell; 2017).

In East Asia, SEZs have played a key role in catalyzing industrial upgrade and economic growth. SEZs first appeared in developing Asian countries as they shifted from import substitution policy to export-oriented manufacturing, with zones like export processing zones (EPZs) and free trade zones (FTZs) functioning as testbeds for export-led incentives to produce for the global market (ADB, 2015). SEZs in Asia have largely thrived while zones in other parts of the world generated mixed results. The first-tier NIEs (newly industrialized economies) or "Four Asian Tigers" – South Korea, Hong Kong, Taiwan and Singapore – are more than often cited as successful cases, where SEZs have been instrumental in the country's industrialization and development. The second-tier NIEs in Southeast Asia, including Indonesia, Malaysia and Thailand, also experienced growth driven by export-oriented zones. China dazzled the world with the "miracle of Shenzhen". Japan finished industrialization earlier than its neighbors and walked an investment-oriented rather than export-oriented growth path, and its SEZ programs came much later and generated little success so far.

China set up its first batch of SEZs in 1978 in tandem with the country's reform and opening up policy, aiming at promoting exports and attracting foreign investment in labor-intensive and resource-dependent industries. These SEZs, led by Shenzhen, have generated huge economic momentum and are therefore called the birthplace of China's economic miracle. Over the years, China has experimented with various types of zones, and these zones have contributed to the country's capital-deepening industrialization, urbanization and nation-wide economic growth. Since the WTO entry,

Chinese zones have been increasingly looking to higher value-added activities and international standards. It is estimated that China has about 300 zones of different types by 2015 (UNDP China, 2015). The number is even larger if provincial zones are counted in.

South Korea's SEZ effort started earlier than China's, when an export processing zone policy was introduced in the early 1970s as a part of the country's export-oriented development strategy. Export processing zones, with Masan as the most successful case, contributed enormously to Korea's economic growth in the development era. After the transition to democracy in 1987, the country initiated more SEZ programs to address new economic challenges, including Foreign Investment Zone program in 1998, which designated more than 100 such zones at the provincial and municipal level, and Free Trade Zone program in 2000, which saw the establishment of seven industrial zones (including the revamped Masan zone) and six logistics zones (Kim, 2007). The latest major effort was made in 2003, since when eight Free Economic Zones (FEZs) were set up under the goal of making South Korea a "Business Hub for Northeast Asia", as the country realized that it would become the "nut in the nutcracker" between low-cost China and high-technology Japan if it failed to seek change (Jeong & Pek, 2016a: 64).

Japan's first comprehensive SEZ efforts started 30 years later than that of South Korea. In 2003, the Koizumi administration promoted special economic zones as a part of a national structural reform to move Japan out of the "lost 10 years" after the bubble busted (Kaneko, 2004). The government aimed to revitalize the private sector by relaxing market access in the zones and later expanding the good practices nationwide. The endeavor lost momentum after Koizumi stepped down, and later the new democratic government rolled out "comprehensive special zones" program in 2011 for international competitiveness and local revitalization (Matsuo, 2014). Over the years, more than 1000 SEZ proposals, big or small, were approved in Japan, but even the successful ones had only a very limited impact on the economy. The latest such effort was made by Abe in 2013, when the "National Strategic Special Zone" program (NSSZ program) was introduced as part of the "Japan Revitalization Strategy", or the third arrow of the high-profile Abenomics (Richards, 2014).

With the slowdown of traditional trade and the general trend of trade and investment liberalization, new trends in global economy has called into question the efficacy of SEZs (particularly EPZs), not to mention the social and environmental problems that have been increasingly associated with SEZs. In response, Asian countries started to revamp or upgrade their zone approaches, objectives, policy packages and institutional arrangements, with the expectation to further tap the potential of SEZs and upkeep their relevance in the current context. South Korea started early by introducing Free Economic Zones to break away from traditional manufacturing and embrace high value-added service-based activities; the FEZ program is a long-term endeavor that the Korean government plans to continue

pursuing until 2020. The Incheon FEZ was designated by the government in this context, with the goal to increase national competitiveness by attracting high-value-added, knowledge-intensive FDI and fostering various kinds of innovative clusters. The Incheon zone is currently in its third phase of development, and zone authority expects to extend its date of completion beyond 2020 (Jeong & Pek, 2016a). China also renewed its SEZ effort after a more ambitious leadership took office. In September 2013, China established its first free trade zone (FTZ), the Shanghai Pilot Free Trade Zone (SPFTZ), which is announced as China's most open and liberalized zone so far. The Shanghai Pilot Free Trade Zone focuses not so much on "trade" as on "pilot"— it is a zone for trying out new reforms. According to official rhetoric, promoting foreign trade and investment is still relevant, but more important is regulatory and institutional reforms that aim to improve business environment, liberalize financial services and move China up the global trade value chain (Yao & Whalley, 2016). Even Japan, a country that had so far been unlucky with SEZs, launched a new SEZ program in 2013 to overhaul vested interests and cut red tape that have hindered development in the past. The Tokyo National Strategic Special Zone (NSSZ) is set up in such context in 2014, with the goal to build Tokyo into an international business base and create more competitive Japanese firms (Tokyo Metropolitan Government, 2013).

1.2 Research questions

This paper will focus on the latest SEZ efforts of three major Northeast Asian countries, namely China's "Free Trade Zone" program launched in 2013, South Korea's "Free Economic Zone" program from 2003 to 2020, and Japan's "National Strategic Special Zone" program introduced in 2013. These are all long-term nationwide zone programs and they have some shared goals: increase the country's competitiveness, contribute to regional and national economic growth, experiment first in the zone and then expand to the rest of the country. Three specific zones are chosen for detailed analysis: China's Shanghai Pilot FTZ, South Korea's Incheon FEZ and Japan's Tokyo NSSZ. All three zones are the first of its kind in the country. They are seen as the flagship zone of the program and are generally believed to have the most potential.

Decades of SEZ development around the world have generated mixed results. Some zones, most notably in Asia and Latin America, have delivered effective economic outcomes and/or long-term impacts; some zones have failed to achieve their goals or have performed less desirably, particularly in African countries. Though there is no universal formula for zone success, zones that performed well do share some common features. This paper is interested in analyzing the features that are found to be strongly associated with good zone performance. An analytical framework of zone performance determinants will be built by drawing criteria from the extensive literature on SEZs, including cross-

country analysis, case studies and surveys. Based on the framework, this paper will compare the three specific zones mentioned above so as to find out:

- **What differences and similarities can be identified among the three SEZs?**
- **Which zone has the best practices?**
- **Can a Northeast Asian type of SEZs be identified in the three countries' latest SEZ pursuit?**

I argue that the three cases are comparable in that

1) the three countries are "natural trading partners" due to geographical proximity. China and South Korea are Japan's top trading partners only after the US, China is both the top import origin and export destination of South Korea, and Japan has been China's top investor for many years. Despite the close ties, the three countries are in strong competition with each other in their pursuit of leadership in regional economic development, and South Korea particularly feels the pressure from the two big powers. This interesting dynamic among the three nations makes it meaningful to have a closer look at their SEZ program, which is used by the government as a key policy instrument to build up competitiveness in the region. These SEZs play a facilitating role in promoting bilateral trade and investment, but they also have to compete with each other for business from third countries.
2) over the past few decades, South Korea and China have been catching up in the flying-geese pattern[1] led by Japan. With gradually converging comparative advantages, the three countries are increasingly engaged in intra-industry trade. Against this economic background, the three countries' renewed SEZ pursuits share similar goals, despite their own unique economic and political circumstances.
3) unlike other successful free trade regimes in Asia such as Hong Kong, Singapore and Taiwan, China, South Korea and Japan are countries with a relatively large hinterland where nationwide reform can be difficult. This common ground put them on a more equal footing to compare than with the above-mentioned economies.
4) South Korea started its SEZ experiment first, China caught up later through its own innovations; Japan started last but a continuous effort can be noticed. The three countries have been constantly adjusting their SEZ roadmaps; they access each other's zone programs, learn from the good practices and try to avoid mistakes. A comparison between the three might help gain some insight

[1] Kasahara, *The Asian Developmental State and the Flying Geese Paradigm*. (UNCTAD discussion paper 2013). The Flying Geese paradigm is first brought forward by Kaname Akamtsu in the 1930s and modernized by Kiyoshi Kojima in the 1970s; this paradigm has often been used to explain the region-wide catching-up process in which industrial activities relocate from advanced to developing countries in the region.

into the bigger question – is the three countries' latest pursuit creating a Northeast Asian type of SEZs?

1.3 Relevance

First, this paper has its focus not on the old generation of zones that have contributed greatly to the developmental Asia, but on the most up-to-date zones in the current economic context. The SEZ literature is heavily concentrated on the old generation of zones, but newly established zones are of equal research value as they continue to stay relevant in Asia. By looking at China, South Korea and Japan's renewed SEZ effort, the paper aims to help fill up the gap in SEZ literature; it is also hoped that this analysis can provide empirics to the future theorizing on SEZs.

Second, this paper is focused on analyzing factors that have proven to be highly correlated with zone performance. It is important to define the determinants of zone performance, considering the huge investment of factor endowments entailed and the risks involved in setting up a zone. The fact is that many countries have rushed to set up zones and then failed to achieve the desired performance. A better understanding of such factors can help relevant stakeholders, be it government or private investor, avoid paying huge opportunity costs. It is hope that this paper can contribute to the formation of a framework of performance determinants for the new generation of SEZs, which can provide standards or benchmarks for evaluating or revamping existing zones, and for better planning future zones.

1.4 Structure

This paper contains six chapters. The first chapter introduces the background of the research topic, the research questions, and the relevance of the study. A comprehensive literature review is also presented in this part, which covers the definition, theoretical approach, impact and performance determinants. Based on the state of art, a framework for zone performance determinants will be developed in the second chapter, which will explain why this factor is chosen and more importantly how to operationalize it when comparing specific cases. The third chapter will apply the framework to three cases, followed by an analysis in the fourth chapter. The case studies rely on secondary data, including laws, regulations, government policy directives and other legal documents, reports and surveys from international organizations, statistics released by government bodies and companies, news release, and research articles. The fourth chapter provides a comparative analysis of the three cases. The fifth part will discuss the findings and answer research questions raised at the beginning of the paper. In the last part, the significance as well as limitations of the findings will be mentioned, and the possibilities for future studies will also be touched upon.

1.5 State of the Art

1.5.1 Definition of SEZ and FTZ

The multiplicity of zone names can be attributed to the differences in forms and function, in economic terminology among countries and in translation (Farole, 2011). In this family, one can also find Export Processing Zones, Free Economic Zones (FEZs), Free Ports, high-tech parks, large-scale SEZs of the Chinese style, cross-border SEZs, regional integration agreements and many others. These zones were established to multiple objectives: attracting foreign investment, promoting trade, increasing employment, gaining foreign exchange earnings and government revenue are the direct benefits; supporting wider economic reforms, technology transfer and structural change are the more indirect goals (Zeng, 2016; White, 2011; Farole, 2011)

Though named differently, these zones have a few features in common (see *Table 1*).

Table 1.

Common Features of Special Economic Zones

Spatial separation	They are geographically delimited and usually physically secured space on the national territory.
Different regulatory regime	They are regulated by a set of rules and laws regarding trade and investment that are more liberal and efficient than those applied to the rest of the national territory
Supportive infrastructure	They offer physical infrastructure and services that facilitate economic activities in the zones and connect the zone to its sources, markets and economic hinterland.
Single administrative body	They have a dedicated governance structure that ensures efficient management of the zone and ensures that investors benefit from its provisions.

Note. Adapted from data in *Special Economic Zones in Africa: Comparing Performance and Learning from Global Experiences*, by T. Farole, 2011, Washington DC: The World Bank; "Special Economic Zones: Lessons from the Global Experience" by G. Z. Zeng, 2016, *PEDL Synthesis Paper Series* (1).

Apart from possessing the common features of SEZs, FTZs also has their own characteristics. But first, one should separate an FTZ from a Free Trade Area (FTA), which is defined by Article XXIV of GATT as "a group of two or more customs territories in which the duties and other restrictive regulations of commerce are eliminated on substantially all the trade between the constituent

territories in products originating in such territories." (WTO, 1994). FTAs reflect trade relations between two or multiple countries, while FTZs generally refer to part of the national territory of a country, but they are considered as outside of the customs territory insofar as import duties and taxes are concerned, according to definition provided by the Revised Kyoto Convention (World Customs Organization, 1999). They are traditionally located close to a port of entry, be it sea, air, railway or road. The World Bank defines FTZs as "fenced-in, duty-free areas, offering warehousing, storage, and distribution facilities for trade, transshipment, and re-export operations" (The World Bank, 2008: 10). As FTZs evolve, activities taking place within the zones become more diversified, including trade-related processes such as warehousing, storage, sales and exhibitions as well as manufacturing of goods, services, technology, logistics, health services and other general services (Farole, 2011; Hamed, 2014).

FTZs are regarded as the oldest form of SEZs. They began as early as the time of the Phoenicians and were developed later by the Romans to expand their economic power; citywide free zones can be traced back to Gibraltar in 1704 and Singapore in 1819, and the first modern free trade zone is believed to be established in Shannon, Ireland in 1959 (as cited in Tiefenbrun, 2013). In the 1970s, many developing countries began to adopt an export substitution strategy and focused on set up EPZs, and some of the EPZs transitioned into FTZs later, like the upgrade of Taiwan's Kaohsiung EPZ (established in 1966) to FTZ in 2003; increasing competition between similar zones and the lowering of trade barriers brought about by WTO entry impelled FTZs to improve what they can offer, leading to the more recent creation of zones with comprehensive functions, professional services and agglomeration effects (Qian & Hu, 2015).

An FTZ may be named differently in different countries. For example, it is referred to as a "foreign trade zone" in the US and in India, but simply called "free zones" in Ireland and in the United Arab Emirates (as cited in Tiefenbrun, 2013). In a larger sense, free ports and EPZs can be counted as certain types of FTZ, or a variant of FTZ at a certain stage of its evolvement. The main feature they have in common is that they are all considered as outside of customs territory. In comparison with FTZs, free ports are believed to offer the highest level of freedom where customs registration is not even required and no restrictions on finance, investment and trade are imposed[2], while EPZs are mainly focused on export-oriented processing activities and are more reliant on cheap labor than FTZs (Qian & Hu, 2015).

[2] Qian and Hu, *Operation Mechanism and Legal Norms of Free Trade Zones from a Comparative Perspective*. (Beijing: Tsinghua University Press, 2015). The authors argue that nowadays almost all "free ports" in the world are not totally free. Even ports like Hong Kong and Singapore that offered full freedom in history have transitioned to limited freedom.

1.5.2 Theoretical approaches to SEZs

A few theoretic approaches are noted in academia that can provide some rationales for the proliferation of SEZs around the world. The orthodox approach and the heterodox approach are the two major approaches in contrast to each other. According to Aggarwal, the orthodox approach is based on the neoclassical theory that emphasizes the role of the market to ensure allocative efficiency, and the heterodox approach draws on developmental state theory and new institutional theories that advocates a mix of state-market interactions (Aggarwal 2010; ADB 2015). The orthodox approach regards free trade and an open economy as the best policy a country should adopt, and therefore SEZs only come as the second-best choice if large-scale free trade is not feasible due to institutional obstacles. In some countries, SEZs were first set up to provide special incentive packages to promote exports within an import substituting regime; they are insulated from the pressure of domestic institutions that were against or cautious about economic opening up and trade liberalization. This approach sees SEZs as enclaves to promote trade by removing obstacles to free market in the zone. Critics say this type of SEZs functions as a distortionary trade instrument with little contribution to the larger economy, and they have no relevance in a free trade context. Neoclassical analysis of SEZs largely generated pessimistic conclusions that SEZs could not enhance the efficiency of resource allocation nor enhance a country's comparative advantage (as cited in Farole, 2011).

The heterodox approach, on the other hand, draws on developmental state theory, new institutional theory or new endogenous growth theory. The developmental state theory stresses East Asia's experience and emphasizes the key role of state institutions in economic development, and endogenous growth theory argues that SEZs enabled foreign firms to transfer knowledge and skills to domestic firms and therefore generated wider growth (Romer, 1993; Johansson & Nilsson, 1997). This approach argues that state intervention is needed to address market failures in developing countries and that the developmental state plays a key role in enabling economic growth through government policies. In this context, SEZs function as a policy instrument of the state, designed to attract foreign direct investment by offering better business environment, less regulation and more tax incentives; in return, foreign investment can bring in technology, skills and management know-how to the country.

To extend theoretical foundations for SEZ establishment, Aggarwal (2010) also proposed the global value chain (GVC) approach and the agglomeration economies approach. The fragmentation of production activities has given rise to the global value chain, where each stage of production in chains creates additional values. In order to help domestic companies integrate into and move up the global value chain, SEZs are established to attract outsourcing and offshoring from foreign companies,

which can bring export opportunities to host countries and help their companies become more competitive through FDI spillover effect. This corresponds with the approach of vertically specialized industrialization (VSI) brought forward by the ADB, which views SEZs as a tool to enable domestic firms to create higher value-added products and services (ADB, 2015). The agglomeration approach sees SEZs as "clusters of outward oriented firms" that can enhance productivity and innovation through "knowledge spillovers, resource sharing and labor pooling" (Aggarwal, 2010: 16). A spatially concentrated cluster of firms can achieve more than dispersed firms through economies of scale and network effects. In this case, SEZs serve as a tool to bring capital, knowledge, technology and talent together to promote agglomeration economies and provide momentum to regional or even national growth.

To sum up, based on the major theoretic rationales for SEZs elaborated above, zones are set up to serve as an enclave for export promotion in a relatively anti-export national economy, or a government-led initiative to attract FDI, or a tool to facilitate domestic firms' integration into the global value chain, or a cluster of competitive firms that aims to achieve agglomeration effects. Countries have decided on different approaches to develop their zones and have adjusted their approaches to adapt to changing conditions. For example, East Asian countries' relatively successful SEZs experience shows that they all somehow shifted at certain period from their original orthodox or heterodox approach to a more evolutionary approach, while ASEAN countries' zone experience shows only limited success due to a lack of spillover and agglomeration effects (ADB 2015). The approaches taken by decision-makers can have a big influence over the direction of zone development and therefore affect zone outcomes.

1.5.3 Impacts of SEZs

The impacts or outcomes of SEZs, particularly those set up in developing countries, are a major focus of the huge body of SEZ literature. SEZ impacts have been explored in academia from the economic, social, legal, environmental and other perspectives. The literature on zone impacts generates mixed findings.

Employment, exports and FDI are the most direct outcomes of SEZ operation and are often used to measure SEZs' economic performance. The Asian Development Bank's econometric study (2015) on SEZs in 169 economies from the period 1990-2014 find that SEZs have a slightly negative effect on exports – or rather, zones in North American and EU show positive zone effect on export, while those in Africa and Latin American show a negative effect, and in Asia, a 10 percent in the number of SEZs increases an economy's manufacturing exports by 1.1 percent; regression results also show SEZs in developing Asia leads to a higher FDI by 82.4 percent compared to other Asian economies

without SEZs. The World Bank's 2008 report notes that SEZs on average generate only marginal direct employment impact, but their indirect employment effects can be quite substantial, particularly in countries with a smaller population like Mauritius or even the UAE; EPZs also accounted for a large share of manufactured exports, most prominently in the Middle East and Africa, and they contributed greatly to export diversification in most countries; SEZs are an important destination of FDI in countries like the Philippines, Bangladesh and Mexico, and they account for over 80 percent of cumulative FDI in China; using net exports to track foreign exchange earnings, the report found the zones that were successful in building up backward linkages with domestic firms can generate more forex earnings, and backward linkages are stronger in larger economies than in smaller ones.

While early studies on zone performance are focused on direct/static economic metrics like employment, FDI and exports, scholars in the 1980s started to shift their attention to the indirect/dynamic impacts of zones, which include forward and backward linkages, technology and skill transfer, among others. The fundamental debate in academia revolves around the question whether SEZs can bring about dynamic outcomes – can SEZs play a catalytic role in nationwide economic growth or only act as "pressure valves" for unemployment and therefore divert reform energies (World Bank, 2008). Some scholars cast doubt on the effectiveness of SEZs in achieving more dynamic and long-term outcomes. Warr's study (1989) shows that most of the benefits generated by zones in Southeast Asian countries are foreign exchange earnings and employment, while local purchases of raw materials and tax revenues are marginal. Likewise, Madani's study on EPZs (1999) confirms their role in creating employment, increasing foreign earnings and the building of national human capital, but he says EPZs could also entail potential losses from tax and tariff concessions, bring concerns over worker's welfare, and cause stress on the environment. Madani argues that the role of EPZs is limited and they only serve as a transitional step in a country's move towards wider liberalization. Jayanthakumaran (2003) surveys previous studies that use benefit-cost analysis to analyze the performance of EPZs in various countries, and his findings are that zones in South Korea, Malaysia, Sri Lanka, China and Indonesia are economically efficient and generate returns well above the estimated opportunity costs; however, heavy reliance on foreign investors is unlikely to maximize domestic profits, and the national interest in EPZs tends to disappear as industrial development proceeds.

Some studies, however, generate more upbeat findings regarding SEZs' spillover effect in the wider economy. In one of the early studies, Johansson and Nilsson (1997) study the impact of EPZs in 11 developing countries from 1980 to 1992; they find that countries with an outward-oriented trade strategy are more likely to see positive impact on trade from zone practice, and that zones can play a catalyst role in generating exports from the rest of the country. Aggarwal (2010) assessed the

economic impacts of SEZs in 10 Indian states based on extensive field research; his study reveals that zones in the Indian context are attracting FDI and creating employment, but their roles are more valuable in regional economic transformation by augmenting local industrial structure and localizing the global value chain, especially the second-generation zones (those engaged in more skill-intensive production) and third-generation SEZs (those engaged in high technology-intensive production). Wang (2013) assesses the impact of SEZs on the local economy based on Chinese municipal dataset, and he notices that SEZs increase FDI (while not crowding out domestic investment), achieve agglomeration economies and generate wage rise, and that cities with more zones or longer zone experiences also benefit more from zones.

The World Bank (2008) cites real-life cases to show the two sides of the coin – South Korea as the best example for the "catalyst role", and countries like China, Malaysia, Jamaica, Kuwait and Jordan all have used zones as testbeds for policies that were later extended to the rest of the country, while the Dominican Republic is a case of "pressure valve" in that its zones remained as enclaves at the expense of the national economy.

Many studies express concerns over the social impact of SEZs. Aggarwal (2007) studies the three largest SEZs in India to examine their impact on human development and poverty reduction, and he concludes that the zones play a rather limited role in human capital formation despite some job generation. Tejani (2011) explores the scholarly literature on the gender dimension of SEZs; such studies generally observed a trend of feminization in export-oriented SEZs and a clear evidence of defeminization when zones upgrade. SEZs have created new job opportunities for women, but these jobs have been poorly paid and insecure, and women's predominance in low-value-added low-skilled jobs continues even as zones become more service-oriented. On the bright side, the special nature of SEZs makes it feasible to experiment with labor reforms in the zones and expand such reforms to the rest of the country later. Likewise, Yeo and Akinci (2011) notes that SEZs are major contributors to greenhouse gas (GHG) emissions (South Korea's 650 industrial parts account for 63 percent of industrial emissions in the country) but they also provide one of the best opportunities to tackle climate change and reduce GHG emissions if industrial zones can be made environmental-friendly. In this sense, low-carbon green zones, which are set up with GHG mitigation target, sustainable infrastructure, climate-friendly investment, low-carbon policy incentives and carbon finance, are best examples to achieve the dual goals of economic growth and environmental protection.

To sum up, most studies are focused on measuring direct/static outcomes of SEZs such as creating employment, attracting FDI and promoting exports, and scholars disagree on zones' more indirect/dynamic impacts in promoting regional growth or creating nation-wide benefit. Some studies warn against the many social or environmental problems brought about by the zones, such as low

wages, gender issues, poor working conditions and environmental threats. Looking at 30 years of zone experiences all over the world, the World Bank exclaims, "while zones have been effective in addressing economic growth and development objectives, they have not been uniformly successful; successes in East Asia and Latin America have been difficult to replicate, particularly in Africa, and many zones have failed." (World Bank, 2008: 1).

Table 2.

Positive Outcomes of SEZs

Direct/Static Economic Outcomes	generate more employment
	attract foreign direct investment
	promote the value and volume of exports
	earn foreign exchange
Indirect/Dynamic Economic Outcomes	generate indirect employment outside of the zone
	diversify the structure of exports
	enhance the skill levels of workforce
	enable technology transfer
	move up in the global value chain
	catalyze regional or national economic reform
Social and Environmental Outcomes	improve working and labor condition
	ensure gender equality
	provide community well-being
	reduce pollution and promote green growth

Note. Summarized from section1.5.3.

1.5.4 Zone performance determinants

Quantitative analysis

As the last section shows, studies on SEZ impacts generate mixed results, and scholars set out to look for answers to a more important question – why some zones turned out to be more successful than others? To be more specific, what are the factors that could determine the performance of zones? The lack of consistent and comprehensive data has restricted the prospects of quantitative analysis, and most such studies therefore have been limited to single-country and comparative case studies (Farole, 2011).

To address the gap in large-sample quantitative analysis, Farole (2011) conducted a study based on a database of SEZs in more than 70 mainly low- and middle-income countries. He found that investment climate (both national and in the zone) and access to a large local and regional market are strongly correlated with SEZ outcomes as measured by direct outcomes of exports, investment and employment; factors like low wages, trade preferences and fiscal incentives are generally not found to be correlated to SEZ outcomes, nor does public or private ownership of SEZs make a systematic difference in outcomes. The determinant of investment climate[3] is particularly addressed by Farole for its well-studied role in achieving a higher level of productivity, exports and investment. At the national level, investment climate can be represented by indicators such as Global Competitiveness Index, Doing Business index, FDI attractiveness and national income; correlation test show that the higher a country's ranking in these indexes, the more positive direct outcomes the country's SEZs can generate. In the zone context, investment climate can be broken down to factors such land and infrastructure, administrative environment and customs administration, and correlation test shows that transport, infrastructure quality and customs clearance are found to have a strong effect on zone performance.

Aggarwal (2005) conducted econometric analysis on the performance of EPZs in India, Sri Lanka and Bangladesh to examine the factors that are crucial for the success of zones in South Asia. He tested the correlation between a set of determinants and zone performance in attracting investment and promoting exports. At the country level, he found that national investment climate, zone incentives, zone governance are positively correlated with investment, while better national governance and national infrastructure facilities can lead to higher exports. In the zone-level analysis which tests factors like per capital income in the region, zone distance from large cities or ports, industrial concentration in the zone, zone size and investment per unit of employment, the findings are that zone location is a significant determinant of zone success while zone size does not play a key role, and capital-intensive zones perform better.

The Asian Development Bank (2015) test data in 169 economies from 1990 to 2014 to see if the presence of institutional framework and governance structure in SEZs has a bearing on the economic performance of the country. The results show the impact of the two variables on export and FDI performance varies greatly across regions. For Asian countries, the results show that economies with SEZ laws export 40 percent more than those without, and those with independent SEZ authorities export 27 percent more than those without; when tested for FDI attraction, the impact of both SEZ law and SEZ authority on FDI levels turns out to be rather insignificant. Considering the finding that

[3] Farole, *Special Economic Zones in Africa: Comparing Performance and Learning from Global Experiences*, 113. According to Farole, efficiency-seeking FDI is strongly determined by the investment climate, but market-seeking FDI may prioritize big markets like Brazil and China that don't rank high on many investment climate indicators.

SEZs have a more significant effect on inducing FDI than promoting exports, the report says economic outcomes of zones might depend on a much broader set of factors than only institutional factors.

Descriptive cases studies

Descriptive studies are conducted on a case-by-case basis and offer in-depth analysis of specific zone experiences. These studies are limited in their ability to bring forward any widely applicable conclusion, but they are powerful in explaining how a factor affects zone performance in a specific case, and their findings are quite helpful in establishing a broader framework for zone performance determinants.

In this manner, the ADB report (2015) summarizes the key factors for zone success based on zone practices all over the world. Factors affecting zone performance at the initial stage include fiscal incentives like tax exemptions, non-fiscal incentives like friendly customs regime, chap factory sites, subsidized land rents, low utility charges, abundant low wage labor and strategic location. However, as zones evolve to more than just enclaves, more factors come into play, such as macroeconomic stability, national industrialization level, depth of labor market, cluster formation and good governance. Particularly, the report argues for the importance of linking SEZs to a country's development strategy so that zones can help accelerate national development through backward and forward linkages; the report also emphasizes the crucial role of a strong institutional framework and governance, represented by the promulgation of relevant laws and an independent, well-coordinated and powerful governing body.

This evolvement of success determinants is reflected in Burgaud and Farole's study (2011) on the development of free zones in the Dominican Republic. Factors like trade preferences, low wages and fiscal incentives had contributed greatly to the success of free zones in the 1980s and 1990s, during which time the zone programs were acting as the most dynamic engine for the country's economic growth. However, zone performance deteriorated since 2000 and particularly after the financial crisis, with decline in employment, number of in-zone firms and exports. Despite the change in macroeconomic trend, zone regime continued to rely on fiscal incentives and labor constraints instead of working on the more difficult tasks to foster backward links and upgrade its workforce. As a result, Dominican zones failed to gain industrial competitiveness and lead economic restructuring in the country, which is "a classic problem of many export-processing programs worldwide" (Burgaud & d Farole, 2011: 176). To sustain good performance, it is therefore important for zones to work on factors that could enable the transition from a mere enclave to catalyst of structural upgrade.

Along the same line, White's study (2011) tries to capture the factors that could tap the potential of SEZs as an instrument for innovation. The more dynamic outcomes of SEZs are needed to nurture innovation which is regarded as a key to economic catching-up in developing countries. White argues the conditions for SEZs to play such a role include 1) domestic technological capabilities, which can be determined by the formal education system, on-the-job training and buildup of domestic R&D capacity; 2) integration of zones in the local economy by facilitating backward linkages, enhancing labor circulation and reforming business climate outside of the zone; 3) a strategic geographic location for SEZs that has easier access to firms, capital and skilled labor or has proximity to a rapidly developing region. According to White, an SEZ should provide world-class infrastructure and business environment in the first step, and then develop labor-intensive manufacturing activities linked to domestic production in the second step, followed by the transition to higher technology manufacturing in the third step.

Engman (2011) looks into Honduras' experience with free zones over three decades and tries to understand why a small Central American country managed to achieve notable success with its zones. He brings forward a number of factors that contributed to zone success after many years of trial and error. One of the key factors he mentions is the participation of the private sector in building and operating zones. The country's zone industry is almost entirely made up of private operators and companies, while the only publicly operated zone has been quite a failure. Against the background of poor national business climate and unstable political situations, private zone operators provide to zone companies quality services that sheltered them from the troubles outside of the zones. However, the government has played an important role in facilitating targeted investment in the zone program and constructing adjacent infrastructure. It also should be noted that the participation of the private sector is made possible with the legislation of the Export Processing Laws; other relevant decrees were issued to help create backward linkages and eventually declare the entire country as a Free Trade Area. A sound legal framework, therefore, is a strong stabilizing factor in zone performance.

However, the government might be the most important enabler of zone success in the Mauritian case. Like the success stories in East Asia, Mauritius' EPZ has achieved dynamic outcomes in the political economic context, catalyzing the country's structural reform from an import-substitution growth model to a dual economic regime. Such a success relied very much on the competence of the Mauritian government, who made EPZ a part of its development strategy, took a central role in implementing the zone program and adapting it over the years, and took initiative to guide the participation of the private sector (Baissac, 2011). In this case, the zone is functioning as an important policy instrument of a competent bureaucracy to pursue development goals, and such a strong political commitment could potentiate zone performance.

1.5.5 Country-specific studies

China

Special economic zones have ignited much research interest from various perspectives, including economics, political science, business studies and urban planning. SEZs in China drew particular attention due to their large scale, effective performance and China's special political economy. The literature of Chinese SEZs goes back to the 1980s and focuses largely on the first batch of comprehensive SEZs led by Shenzhen. Quite a lot of scholars attempted to assess the effects of SEZs in terms of the attraction of foreign capital, export growth and foreign exchange earnings (Wong, 1987; Wang, 2013), the progress of China's industrialization (Wang & Bradbury, 1986; Zeng, 2010; Wei, 2000), and China's economic transition in general (Ge, 1999); some studied the features and development process of SEZs (Sit, 1985; Yeung Lee & Kee, 2013); some focused on the social and political aspects of SEZs (Moberg, 2015; Litwack & Qian, 1998; Chen, 1993). More recently, the vast literature extended to other types of SEZs in China, such as eco-industrial parks industrial parks (Zhang et al., 2010) or even China's SEZs overseas, particularly in Africa (Zeng, 2015; Brautigam, Farole & Tang; 2011).

When the SPFTZ was launched in 2013, there has been an upsurge of research interest. Scholars tried to analyze the various new features of the zone in comparison with the old ones: Hu (2017) provides an account of administrative innovations in the zone; Wang (2017) examines the management of foreign private equity funds newly allowed in the zone and noted that more efforts are needed to ensure national treatment; Wang (2017) argues that labor relations in the zone is diverse and international, but more efforts are needed to simplify the employment of foreign staff and integrate with international standards; Peng and Fei (2017) approach from the legal perspective and identify problems such as the lack of legislation, unclear administrative division and inexperienced dispute settlement resolution; other studies tried to gain insights into IPR protection, anti-monopoly process and environmental protection in the zone. Despite the SPFTZ's short existence, scholars also attempted to provide a preliminary assessment of its performance: Yao and Walley (2015) test the zone's effects on China's capital control by examining the yield gap between onshore and offshore RMB markets and found that capital control is weaker since the zone; Lui (2014) discusses the role of the zone in shaping China's foreign investment environment. From a broader perspective, Shen and Vanhullebusch (2015) associate the zone with China's new economic model after the global financial crisis and confirm that zone is oriented towards financial liberalization rather than manufacturing in heavy industries or export sectors; Wan et al. (2014) discuss zone policies from the

angle of fourth-generation ports and how such ports can function as integral links in the supply chain by providing value-added services.

South Korea

South Korea is often present as a valuable case in quite many studies on EPZs before the 2000s, when the Korean government spearheaded with EPZ programs and generated much success. These studies look at the Korean experiences to understand the impacts of zones, focusing particular on the role of EPZs in generating more dynamic outcomes. Specifically, Oh (1993) studies the economic impact of early Korea's EPZs, noting that early EPZs made an important but relatively limited contribution to the promotion of export-oriented industrialization and technological progress in the country, and he suggests that the future development of these zones would focus on promoting higher value-added industries. Jayanthakumaran (2003) surveys the literature of benefit-cost assessments on EPZs and concludes that zones in South Korea are found to be economically efficient and generate returns well above estimated opportunity costs. White (2011) cites South Korea EPZs as a good example of building up R&D capacity and facilitating backward linkages practices, through practices like on-job-training and outsourcing program to local firms. UNCTAD's (2015) recent study emphasizes the changed role of EPZs as contributors to sustainable development, and Korean EPZs excelled in this aspect by providing waste management systems and alternative energy services. Murayama and Yokota's study (2009) found that Korean EPZs during the developmental era in the 1970s and 1980s were dependent on cheap labor of young female workers, but as the zones shifted to high-tech and capital-intensive industries after 1987, employment security, labor skills and gender-based wage gap all improved in the zones.

The country's Masan FTZ is often cited as one the best examples of EPZ programs and has been a focus of literature on Korean SEZs. Such studies go back to the 1980s when Warr (1984) provided a benefit-cost analysis of the zone, which estimated that the zone generated a high rate of return. O'Flaherty (2008) offers a thorough study on backward linkages and technology spillover of the Masan zone, which he argues is made possible by the willingness of zone enterprises to employ domestic subcontractors and the diligence of domestic supplier in ensuring compliance to international standards. Jeong and Pek (2016b) notes that Masan outperforms other zone in the country thanks to its superior location, strong incentives, efficient one-stop service and linkages with local industries, but the study also acknowledges the declining performance of Masan zone over the past decade.

Research interest in EPZs declined as the Korean government set up a batch of free economic zones to address new circumstances facing the economy, with the first zone of such type, Incheon FEZ,

drawing much of academic attention. Kim (2007) compares the Incheon FEZ with Shanghai's Pudong New Area (where Shanghai pilot FTZ is located), arguing that the lessons Incheon could learn from Shanghai's practices include strong infrastructure, support from central government and one-stop service. Lee's lengthy study (2011) found that the country's Capital Region Regulation has a negative influence on firms' intention to invest in the Incheon zone, and investors rate zone location, tax incentives and accessibility to high tech as the most important factors for their investment decision. Jeong and Pek (2016a) evaluates the performance of the Incheon zone and notes it outperforms other FEZs in the country in terms of FDI attraction and development, but Korean FEZs in general need to attract more domestic firms, depoliticize zone projects, and strengthen SEZ policy with overall development plan.

Japan

Compared with its more successful and experienced neighbors, Japan's SEZ effort is "too little and too late". The country's SEZ programs never become a matter of international research curiosity and relevant academic studies on Japanese SEZs are rather limited. Harada (2011) gives an introduction of Japan's early SEZs and argues that they function as a tool for policy innovation and coordination between national and local governments; in a law-governed state like Japan, SEZs are a form of governance in which local governments can exclude the national positive law. Miyagawa (2017) examines the economic effects of special zones set up since 2002 and argues that regulatory reform through SEZs can achieve a higher productivity than the conventional approach focused on social infrastructure development; he therefore calls for the government to pursue bolder regulatory reform through SEZ programs. Hatta (2015) points out that Abe's NSSZs are different from previous zones in that they are part of a national growth strategy rather than regional and that the private sector as well as academics are involved in the negotiation process regarding deregulation. In another paper, Hatte (2017) compares industrial policies with competition policies and argues that the introduction of industrial policies caused Japan's economic slowdown since mid 1970s; he notes that Abe's SEZ program is the centerpiece of his "growth strategy through competition" policy (Hatta, 2017: 168).

2. Analytical Framework

2.1 National/regional factors

National factors here refer to the broader national environment outside of the zone, as opposed to zone-specific factors like infrastructure in the zone or the many aspects of zone governance, which

will be discussed in detail in the next section. Zone-specific factors might have a direct influence on how effective a zone can run, but studies show that variations at the national level also play a strong role in facilitating or constraining the performance of a zone (Aggarwal, 2005; Farole, 2011; Engman, 2011; ADB, 2015). Zones inevitably rely on factor inputs from the outside. Even for zones that are set up as enclaves to shelter companies from the unfavorable national conditions, their performance cannot be detached from the influence of bigger environment. And for zones aiming to build up forward or backward linkages, the national or regional factors can be crucial.

2.1.1 National investment climate

The extensive literature on FDI and trade agrees that a better national investment climate leads to a higher level of investment and exports. Investment climate is broadly defined by Dollar (2005) as "the institutional, policy, and regulatory environment in which firms operate—factors that influence the link from sowing to reaping." It encompasses a set of factors that shape the opportunities and incentives for firms to invest in a location, including finance, infrastructure, labor, regulation, taxation, rule of law, corruption, openness to trade and legal system (Smith, 2005; Farole, 2008). These factors will be analyzed in detail in the next section on zone-specific environment. At the cross-country level, a number of global benchmarking indicators have been developed to understand the investment climate in different countries, and such indicators are focused on assessing their competitiveness, investment barriers, risks and policy uncertainty and cost of operation (United Nations, 2016). I will look at how countries perform in these indicators when comparing their national investment climate. Some of the key datasets I will consider are:

- The World Bank's Doing Business indicator, which measures business regulation and their enforcement across 190 economies
- The World Economic Forum (WEF)'s Global Competitiveness Index, which measures over 110 variables based on surveys and publicly available data
- The World Bank's Worldwide Governance Indicator, which assesses six dimensions (accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption) of governance for over 200 economies over 1996-2017

2.1.2 Human capital

Economists have since years noted the strong relationship between individual skills and economic growth. In the context of SEZs, studies show that human capital can be both a condition and outcome of zone success. Lack of quality human resources could constrain the restructuring of zones to higher value-added production (ADB, 2015), while the presence of skillful labor, particularly R&D and

management personals, can unleash the potential of SEZs as an instrument for innovation (White, 2011). Based on OECD definitions, human capital is "the knowledge, skills, competences and other attributes embodied in individuals that are relevant to economic activity" (OECD, 1998: 9), and it can be acquired through many channels, including parenting, education, on-the-job training, health care, migration and other ways. This paper will adopt an indicator-based approach to compare human capital condition of the countries being studied. Education-related indicators are often used in this approach, because education is widely regarded as the most important dimension of the human capital formation. Such indicators include adult literacy rates, school enrolment ratios, average years of schooling, and more recently the test result of OECD Program for International Student Assessment (PISA) (OECD, 2012). The World Bank's Human Capital Index and the WEF's Global Human Capital report can also provide some insights. Moreover, national or regional strategies to attract foreign nationals (including top talents, professionals, less-skilled neighbor and overseas students) through immigration policies will also be taken into consideration.

2.1.3 SEZ approach

As has been discussed in literature review, the approaches taking by decision makers at the initial phase of zone-planning can determine the direction of zone development – whether it will be an enclave for export, a destination of FDI, a driver for GVC integration, an industrial cluster or a mixture of multiple purposes. A good theoretical understanding of zone approach can lead to the right zone policies. It should be noted, however, that zone practices show that a GVC approach, a VSI approach or an agglomeration economies approach can ensure more dynamic zone outcomes and longer-term zone success.

One key aspect of SEZ approach is whether the zone program is integrated into the country's development strategy and is allowed the flexibility to adapt to the evolving needs of the country. Zone experiences of many countries show that a standalone zone project more than often get into trouble after the initial success, but zones that are integrated into the country's development strategy are much more likely to achieve longer term success (Farole, 2011; ADB, 2015; Zeng, 2016). This linkage with national development means that the zone has secured political support from the top-level government and that zone policies are formed in a way that aims to maximize the zone's spillover effect. It is therefore meaningful to examine a country's SEZ roadmap and underline the key envisions of zone planners.

2.1.4 SEZ legislation

Another key factor contributing to the success of zone programs is a well-developed legal framework with laws and regulations that lay the foundation for the zone programs. The positive correlation between SEZ legislation and good performance is well established in the literature: cross-country data analysis shows Asian countries with SEZ laws export 40 percent more than those without (ADB, 2015); case study on zones in Honduras shows that the country's legislation of the Export Processing Laws guaranteed the participation of the private sector, which is proven a key step to success (Engman, 2011); in Indian's case, the lack of SEZ success for decades finally led India to the idea of drafting a comprehensive SEZ law in 2005 (Aggarwal, 2005). An effective legal framework for a SEZ program consists of an overarching law enacted by a country's top legislative body, ordinances and regulations passed by the executive branch, as well as rules introduced by the zone authority (Qian & Hu, 2015). A systematically and clearly written statutory law is at the center of the legal framework, which can be extremely helpful for investors who feel overwhelmed by the numerous rules and regulations related to zones. Such a law usually defines the legal status of zones, specifies their purpose, stipulates rules to regulate different parties, clarifies procedures for investors, and set the primary framework for incentives and institutional arrangements (ADB, 2015; Farole, 2011). It therefore makes sense to check if a country has a clear and comprehensive SEZ law before looking into the zone-specific details.

2.2 Zone-specific factors

2.2.1 Location in the country

Location might be one of the first issues to consider when designing a zone. Literature review shows that SEZ location in the country is a significant determinant of zone success (Aggarwal, 2005; White, 2011; ADB, 2015). Ideally, a zone should be located on the coast and has multimodal connectivity with major trading destinations. And the zone should be located close to urban centers with good urban services, industrial development and a large consumer market so that it can absorb good factor inputs and in turn help foster local economy. More than often, zones that are set up in underdeveloped regions in the country with the purpose to improve local economy have performed below expectations. For example, despite its coastal location, China's Hainan SEZ, established in 1988 when it was one of the poorest regions in China, lagged far behind its counterparts in Guangdong and Fujian in terms of FDI inflows and industrial output (Ota, 2003). When addressing this particular determinant, this paper will first look at the geographic advantages/disadvantages and then the regional development of the zones under comparison.

2.2.2 The quality of infrastructure

Infrastructure is defined as the basic physical systems of a business or nation, including transportation, communication, sewage, water and electric systems that are high-cost investments but vital to a country's economic development (Investopedia, n.d.). Beside physical infrastructure, there is also social infrastructure, which according a definition provided by the Great London Authority (2017: 202) is "a range of services and facilities that meet local and strategic needs and contribute towards a good quality of life, including health provision, education, community, play, youth, recreation, sports, faith, and emergency facilities".

The relationship between infrastructure and FDI/exports has been well researched, and the literature generally confirms that good quality infrastructure can help lower cost of doing business and therefore increase returns for firms. In the SEZ context, cross-country studies on zones find that good physical infrastructure is strongly connected with zone performance (Farole, 2011; Aggarwal, 2005). For less developed countries, one point of setting up special zones is to address the infrastructure deficiencies that characterizes the rest of the nation, while in more developed economies where physical infrastructure is normally sufficiently provided, zone planners are attaching more importance to social infrastructure so as to achieve green growth and social returns. The concept of Eco-Industrial Parks has become increasingly recognized, with countries like China and South Korea attaching equal importance to social performance and industrial development when developing industrial parks (World Bank, 2017; Demir, 2018). Low-carbon green zones have even higher environmental goals than eco-industrial parks; such zones are built with sustainable infrastructure like green buildings, waste recycling systems and energy supply facilities to reduce carbon footprint in the zones (Yeo & Akinci, 2011).

When addressing this factor, this paper will first look at the physical infrastructure in the zones, with an emphasis on transport and logistic facilities; secondly, zone effort to pursue social infrastructure will be examined, particularly the initiatives that aim to address the environmental and social problems associated with zone development as discussed in literature review.

2.2.3 Incentives

In the context of foreign direct investment, UNCTAD (2003) defines incentives as one of the policy tools used by government to create a more favorable investment climate so as to attract investment and benefit more from it. According to UNCTAD (2003), financial incentives (such as outright grants and loans at concessionary rates) and fiscal incentives (reduced tax rates) are most frequently employed; other incentives may include regulatory concessions such as exemptions from labor or

environmental standards, which will be addressed in more detail in the next part. More developed countries can afford financial incentives, whereas developing countries are found to rely more on fiscal instruments that aim to ease tax burden for investors (UNCTAD, 2003). Studies find fiscal incentives, particularly tax policies, are associated with higher level of foreign direct investment, but their effect can be rather limited (as cited in Farole, 2011).

In the SEZ context, where incentives are often provided in greater number and variety than the rest of the country, zone planners expect that such incentive packages can attract more investors. The theory is that fiscal incentives can directly reduce the cost of production, operation and export for units in the zone (Aggarwal, 2005). Though fiscal incentive like tax exemptions is in itself a form of revenue loss for the government, policy makers believe that the positive outcomes brought about by such incentives will make up for the loss (as cited in Farole, 2011). However, econometric analysis generates mixed results regarding the significance of correlation between fiscal incentives and better zone outcomes (Farole, 2011; Aggarwal, 2005); case studies found them to be positively associated with better direct outcomes (Madani, 1991; ADB, 2015; Burgaud & Farole, 2011), but they could turn to a counterproductive factor as zones evolve (Burgaud & Farole, 2011).

One problem with incentives is that they are becoming increasing similar around the world as countries try to keep up with their rivals; this trend has made it less effective for zones to use generous incentive packages to offset other disadvantages and started to impose significant costs on government budgets (FIAS, 2008). Moreover, incentives for exports also need to comply with multilateral trade rules like WTO so that they do not look like prohibited export subsidies. Farole (2011) suggests that zone planners move away from fiscal incentives to focus more on non-fiscal incentives and improved infrastructure and service delivery in the zone.

Despite the mixed findings regard the effect of various incentive policies on zone performance, they are generally rated by investors as an important factor, and it is meaningful to include them in the comparison when other factors are more or less on an equal footing. Regarding financial incentives, one can look at investment grants, subsidized loans, export credits, government insurance at preferential rates that covers risks related to exchange rate or political turmoil; for fiscal incentives, one can look at corporate tax reduction or exemption, import-based duty exemption, export-based tax exemption and so on (FIAS, 2008; UNCTAD, 2003). Apart from general incentives, this paper will also pay attention to incentives designed to force backward linkages with the local economy. Such incentives could be duty-free access to the local market for zone units if they get supplies from local firms, duty drawbacks for local firms that sell to zone-based enterprise, or arrangements to facilitate contact between zone-based firms and local firms (Farole, 2008; White, 2011).

2.2.4 Deregulation

Regulation is broadly defined by the OECD as imposition of rules by government to modify the economic behavior of individuals and firms in the private sector, and the frequently used regulatory instruments or targets include prices, output, rate of return, disclosure of information, standards and ownership ceilings; deregulation, on the other hand, refers to the relaxation or removal of these regulatory constraints, which can be achieved through regulatory reform (OECD, 2002). The rationales for regulation is that it can address market failures (such as imperfect competition and market instabilities) through government intervention to increase economic efficiency, and that it can ensure more equitable distribution so as to maximize social welfare. However, optimal intervention rarely happens because regulators can hardly acquire sufficient information on the market and they can be driven by their own interest. Instead, a process of deregulation could be witnessed in many countries driven by the desire to foster efficiency and innovation, to reduce government borrowing and to remove rent-extracting behaviors of regulators (Pera, 1989; Den Hertog, 2010).

Deregulation has been a major theme in government-run special economic zones, where relaxed policies are introduced to attract investors or for a test run before wider application. Investors have repeatedly rated the level of deregulation in the zone as one of the key factors that affect their decision to invest in the zone. This paper will look into the specific deregulatory measures in each of the cases under study. As scholars distinguish between two major types of regulation – economic regulation and social regulation, deregulatory measures can also be analyzed from this angle. Economic deregulation could involve relaxations over prices, quantity, services, and market entry and exit, while social deregulation can refer to a broad range of rules that tend to provide more flexibility in labor standards or environmental compliance. Market entry and labor standards will be of particular focus. In terms of deregulation in market entry, the paper will examine if rules over ownership restriction and prohibited investments are relaxed and if equal treatment of foreign and domestic investors is promoted; in terms of labor standards, it's important that labor regimes are consistent with International Labor Organization standards and obligations, but in addition to that, flexible employment arrangements, freely negotiated labor benefit package and a functioning dispute settlement mechanism are more relevant to the latest generation of zones in Asia.

2.2.5 Administrative system

The practices of successful zones have another feature in common – they have an administrative system that aims to streamline the procedures for business activities in the zone. To start a business, an investor usually has to deal with multiple agencies to obtain the necessary approval, licenses,

permits and clearances. A well-designed and efficiently-implemented administrative regime in the zone can save investors the pain of going through the labyrinth of bureaucracy, which covers the entire of process from starting a business to running a business. This paper will mainly look at three aspects of the administrative system in the zone.

First, transparent and automatic business approval. Over the years, regulatory authorities in many zones around the world have gradually shifted from case-by-case examination of applications to automatic approval. Under the new regulatory regime, investors no longer need to file an application and then wait long for a result, but can directly register with the regulatory authority following a clearly-defined "negative list" or other criteria.

Second, one-stop service. Examples of authorizations needed for starting a business in the zone include export and import licenses, work permit, land use permit, health and safety certificates, environmental clearances, and so on (Farole, 2011). Investor would have to suffer substantial time loss and financial cost to deal with different authorities. Given the complexity of this process, the concept of one-stop shop (OSS) has become very popular among investors and zone planners. The OSS system basically means that investors could obtain all the necessary paperwork by contacting one single entity, and it works quite successfully in countries like Singapore, Malaysian and Ireland (as cited in Stone, 2006). There has been a global trend of setting up the OSS system in the zones, but case studies show that the effective administrative delivery of such a system has been hampered by weak institutional authority in zones of low- and middle-income countries (FIAS, 2008; Farole, 2011).

Third, streamlined customs procedures. Surveys show that investors rated single window clearances and custom clearance facilities as the most important regulatory factor they would consider (Aggarwal, 2005); data analysis also finds customs clearance to be strongly correlated with zone performance (Farole, 2011). In order to become more internationally competitive, many zones are working towards a simplified customs regime by providing on-site inspection of zone imports and exports and by ensuring a single window system (FIAS, 2008). The single window system is a trade facilitative measure which allows the trader or transporter to submit all data needed import, export or transit only once to authorities of border controls and at a single portal (World Customs Organization, n.d.)

2.2.6 Institutional arrangements

A country's institutional arrangements refer to formal government organizational structures as well informal norms which are in place for arranging and undertaking policy work (United Nations, n.d.). When it comes to SEZs, the most important institutional actor here is the zone's regulatory authority,

and a regulatory authority with strong mandate and sufficient autonomy is found to be positively associated with good zone performance.

Zones are found to be based on a variety of institutional models – they could be run by government ministries or the private sector or a mix of both. The literature shows that privately owned or operated zones don't necessarily perform better than public zones. But still, available data from a larger number of zones suggests better general economic results in privately developed and operated zones, with the government performing a critical role in providing infrastructure and institutional support. In this sense, effective partnership between government and the private sector might be the best possible institutional arrangement for zones. To build such a partnership, it's suggested the establishment of an independent agency combining both key government ministries and private sector representatives, and ideally the private sector representatives should constitute the majority. The autonomy of zone authority can be reinforced by involving the private sector financial and managerially. It is important that the zone authority can make independent decisions free from the intervention of authorities outside of the zone (FIAS, 2008; Farole, 2011).

Zone authority should be empowered through legislation or ministerial delegation so that they can make and enforce decision on a wide range of activities in the zone (FIAS, 2008). It is recommended a special agency be set up at the national level to guide and coordinate the management of zones under the same program, and that the zone authority reports to the highest possible level of government (for example, the president of the country or a central minister) to ensure its mandate. For example, China's SEZs were given legislative authority to develop laws and regulations to govern the zones, when at that time only the national and provincial People's Congress had such legislative power, and this power allowed zone authorities freedom in innovating zone-specific policies (Zeng, 2012). The Shenzhen SEZ was the first in the country to conduct wage reform and establish a labor market, which couldn't be accomplished without a capable authority that can plan and implement in a strong position. In comparison, African zones were not given enough power to deliver their mandate, particularly regarding customs, environmental compliance and immigration issues, due to capacity limitations of the zones or political economy constraints on interagency coordination (Farole, 2011).

When addressing the institutional factor of zones under comparison, this paper will first look at their institutional arrangements (whether it's private, public or mixed) and then estimate their level of authority and autonomy.

Table 3.

A Framework of Zone Performance Determinants

National/Regional Factors	National investment climate
	• ease to start a business • business competitiveness • governance
	Human capital
	• education-related indicators (PISA test result) • government policies to enhance human capital
	SEZ approach
	• orthodox • heterodox • GVC integration • agglomeration
	SEZ legislation
	• basic SEZ law at the national level
Zone-Specific Factors	Location in the country
	• multimodal connectivity • proximity to urban centers • regional development
	The quality of infrastructure
	• physical infrastructure • social infrastructure
	Fiscal and financial incentives
	• financial incentives • fiscal incentives
	Deregulation
	• market access
	Administrative system
	• business approval • one-stop shop • customs procedures
	Institutional arrangements

	• institutional model (public or private) • mandate and autonomy

Note. Summarized from Chapter 2.

3. Empirics from China, South Korea and Japan

3.1 National/ Regional Factors

3.1.1 National investment climate

China

China economic performance in the past decades reflects high dependence on foreign investment and exports to the foreign market. Chinese leadership under Xi Jinping has repeatedly declared its commitment to "letting the market play a decisive role", "further opening up to the outside world" and "creating a better business environment" (Xi, 2017), but reactions from foreign firms have been less encouraging. In a 2018 business survey by EU Chamber of Commerce in China, nearly half of the members polled expect the regulatory environment in China to worsen over the next five years (European Chamber, 2018). Apart from a restrictive regulatory regime, China is also criticized by foreign-invested companies for practices of forced technology transfer and the lack of rule of law.

The World Bank's Doing Business index ranks China at the 46th place out of a total of 190 countries in terms of the ease of doing business, a notable progress from the 78th place for the year 2018. China performs well in sub-criteria such as getting electricity (13th) and enforcing contracts (6th), but performs rather poorly in terms of dealing with construction permits (121st) and paying taxes (114th) (World Bank, 2018a). China ranks the 28th in World Economic Forum's 2018 Global Competitiveness Report. Specifically, China boasts the world's largest market size, and it has become a prominent player in innovation (24th) and ranks high in infrastructure (29th) and ICT adoption (26th), which is a substantial progress considering the huge size of the country; but China need to improve its institutional framework (65th) and address issues in fair competition (55th) and labor market (69th) (World Economic Forum, 2018). OECD's latest FDI restrictiveness index, which looks at a country's foreign equity limitations, screening mechanisms, restrictions on the employment of foreign personnel and operations restrictions, scores China at 0.3 (0 means completely open and 1 means closed to FDI), the fourth closest regime of all OECD and G20 countries (OECD, n.d.). The World Bank's Worldwide Governance indicators show that China ranks relatively high in

"government effectiveness" (69th percentile) but rather low in "voice and accountability"[4] (8th percentile).

South Korea

After the Asian Financial Crisis, South Korea opened up more of its domestic sectors and relaxed further its regulatory environment for foreign investment. OECD data shows that Korea was the biggest reformer of FDI policies between 1997 and 2010 among a sample of 40 developed and emerging countries (Nicolas, Thomsen & Bang, 2013). Today, South Korea is generally perceived as a country able to offer a stable and open investment environment for foreign companies, and the country's shift to technology-intensive industries and knowledge-based service economy is providing increasing business opportunities in the higher-value sectors. Korea's FTA hub status (15 concluded FTAs with 52 countries, including FTAs with the US, the EU and China) also gives it an advantage in attracting FDI. Nevertheless, the country's investment environment is still criticized for its informal "window guidance", low participation of women in the employment market, high gender pay gap, market domination by chaebols, and restrictions over foreign investment in certain sectors (US Department of State, 2018).

Taking a closer look, the World Bank's 2019 Doing Business index ranks South Korea at the 5th place of all 190 economies surveyed. The country offers foreign investors top-notch experience in getting electricity (2nd) and enforcing contracts (2nd), while getting credits (60th) and registering property (40th) may prove to be more difficult (World Bank, 2018c). Korea ranks the 15th in WEF's 2018 Global Competitiveness Report – the country boasts the world's best ICT adoption and macroeconomic stability, strong innovation (8th), and high R&D spending to GDP ratio (2nd), but performs less desirably in product market (67th) and labor market (48th) due to lack of domestic competition and rigid labor policies (World Economic Forum, 2018). OECD's latest FDI restrictiveness index scores South Korea at 0.135, higher than OECD average, which means the country has a stricter regulatory system for foreign investment than most OECD countries. The World Bank's Worldwide Governance indicators ranked Korea at the medium to upper level in 2017. The country performs well in rule of law (86 percentile), government effectiveness and regulatory quality, but might need to improve its political stability (59 percentile).

Japan

Despite Japan's large economic size and generally open market, the country received far less foreign investment in comparison to other developed countries and its neighbors – Japan's FDI stocks to GDP

[4] See https://info.worldbank.org/governance/wgi/pdf/va.pdf. "Voice and accountability captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media."

ratio is the lowest in OECD countries. Apart from government regulations, the US Department of State points out that prevailing business practices also pose obstacles to foreign investment in Japan. For example, Japan's insular business culture has built up a resistance towards unsolicited M&As from foreign firms, and its exclusive supplier networks and alliances between business groups tend to keep newcomers outside of the game; Japan's rigid labor practices such as lifetime employment can also increase the cost and complexity of human resource management (US State Department, 2018). A 2018 investment climate survey conducted by the country's trade promotion agency Japan External Trade Organization (JETRO) shows that the biggest obstacle to doing business in Japan is difficulty in finding human resources with foreign language ability and professional skills; the lack of English translation is cited by most investors as the most significant challenge (JETRO, 2018). Aware of the importance of FDI in Japan's economic restructuring and growth, the Abe administration has made FDI attraction a part of its Revitalization Strategy and aims to increase FDI stock to 35 trillion yen by 2020.

The World Bank's 2019 Doing Business index ranks Japan at the 39th place. The country is leading the world in terms of resolving insolvency (1st), but it takes relatively long and costs a lot to start a business in Tokyo (93rd), and tax payments (97th) are much higher than the average level of OECD high income countries (World Bank, 2018b). WEF's 2018 Global Competitiveness Report ranks Japan at 5th of all 140 countries and 2nd in East Asia and Pacific: the country ranks first in health, and it offers top-level digital (3rd) and physical (5th) infrastructure, but it scores low in social capital (95th), shareholder governance (90th), hiring and firing practices (99th) and diversity of workforce (World Economic Forum, 2018). Japan's score in OECD FDI Restrictiveness Index was significantly higher than OECD average from 1997 to 2010, meaning that the country had been relative close to FDI; however, thanks to government effort, Japan's score has improved greatly in recent years to 0.052 in 2017, but it still remains restricted in many sectors (Russell, 2017; OECD, n.d.). The World Bank's Worldwide Governance indicators shows that Japan performed better than 90 percent of the countries surveyed in terms of government effectiveness, regulatory quality, rule of law and corruption control.

3.1.2 Human capital

China

OECD's latest data shows that China is one of the lowest among OECD and partner countries in almost all educational indicators calculated by the organization. For example, China ranks 42th out of 46 countries in the level of tertiary attainment among 25- to 34-year-olds (17.9%) and has the

lowest level of upper secondary attainment among the same age group (35.7%); its percentage of 25- to 64-year-olds who attained a master's or equivalent is the lowest of the countries surveyed (OECD, 2018a). However, considering the huge rural-urban gap and regional differences in Chinese education, it is more accurate to narrow down the analysis here to the Shanghai region, which is the main source of human capital to the Shanghai FTZ under study.

Compared with the rest of the country, Shanghai has been a pioneer in education. It is one of the first cities in the country to achieve almost universal primary, junior secondary as well senor secondary education; it has been leading the country in curriculum reform, and more importantly in the Gaokao reform by introducing more flexibilities in the rigid college entrance examination system (OECD, 2016a). Shanghai is the first city in China to have taken part in OECD's Program for International Student Assessment (PISA) in 2009, a test organized every three years for 15-year-olds all over the world. Shanghai students outperformed other OECD member and partner countries in all three subject areas (mathematics, science and reading) in 2009 and 2012; the 2015 ranking dropped because China's Beijing, Jiangsu and Guangzhou also joined the test (OECD, 2016b). A World Bank study attributes Shanghai's excellent educational performance to its successful implementation of educational policies, efficient public financing and constant drive to address challenges (Liang, Kidwai & Zhang, 2016).

Apart from fostering local talents through a competent education system, the city's policy effort to attract talents from the rest of China and from abroad is also gaining strength. China's household system and the unequal treatment it entails have restricted mobility of human resources. In response, Shanghai rolled out preferential policies to attract certain groups of people, such as talents for the high-tech sector, management personnel as well as entrepreneurs, to stay and work in the city, particularly in the Shanghai FTZ; the government also made it easier for foreign professionals and experts to work in Shanghai (Shanghai Municipal Government, 2016).

South Korea

South Korea has one of the highest-educated labor forces among OECD countries. The country is in a leading position from early childhood education to tertiary education: it has the highest level of upper secondary attainment (98%) as well as tertiary attainment (69.8%) among 25- to 34-year-olds among OECD countries; it has a high percentage of new entrants to tertiary education in the fields of engineering, manufacturing and construction; the country spent 5.8% of its GDP on primary through tertiary educational institutions, one of the highest among OECD countries (OECD, 2018c). Korean teenagers also excel in PISA tests: Korea ranked 5th in mathematics and reading and 7th in science

among OECD member and partner countries; its rankings dropped to 9th in mathematics and reading and 14th in science in 2015. Nevertheless, South Korea remain a top performer in basic education.

Despite a well-educated work force, the country's rapidly aging population and low fertility rate is driving the government to look for ways to bring in foreign workers. Two five-year national plans for immigration policy have been launched so far. The first plan for the period 2008 to 2012 marks a shift from a control-oriented policy in the past to a strategic opening-up policy, with improved visa system, dual nationality system and national-level support introduced to foreigners, particularly those with high skills (Immigration Policy Commission, 2008). Based on the first basic plan, the second plan for 2013-2017 period aims to relax policies further for in-demand foreign professionals, medical tourists, renowned scientists, overseas students and investors, while capping the number of unskilled workers and cracking down on illegal immigration (Immigration Policy Commission, 2013).

Japan

Japan is also one of the best performers among OECD member and partner countries: its level of tertiary attainment among 25- to 34-year-olds (60.4%) ranked the 3rd among 46 countries surveyed, in spite of its high level of tuition fees among OECD countries; the country's expenditure on primary through tertiary educational institutions accounted for 4.1% of its GDP in 2015, one of the lowest among OECD countries; despite large gender gap in the job market, the employment rate among women with a tertiary education has increased by 11 percentage points in the past decades (OECD, 2018b). Japan has the highest enrolment rate of 5- to14-year-olds in the world, and like its neighbors, Japan's 15-year-olds also outperformed peers from most countries in the PISA test, particularly in science – Japanese students ranked second in science, fifth in mathematics and eighth in among 72 economies in the 2015 test.

Pressured by labor shortages caused a rapidly aging population, the historically homogenous country has started to open up to foreigners, in addition to encouraging women and elderly to join the workforce and developing robotic technologies. Same as South Korea, Japan also introduces five-year basic plans for immigration policies, and the latest such plan was released in 2015, which sets the goal to proactively bring in foreign nationals, including high-skilled professionals, less-skilled labors, foreign students and tourists, to vitalize the Japanese economy (Japan Ministry of Justice, 2015). To attract foreign nationals in professional and technical fields, a point-based system was launched in 2012, which gives eligible highly-skilled professionals preferential immigration treatment; the system was further relaxed in 2017 to allow high-skilled foreigners to apply for a "Japanese green card" after one-year stay (Japan Ministry of Justice, 2015). To attract less-skilled workers, a revision to the immigration control law was passed in December 2018, which allows as

many as 345,000 low-skilled workers to work for up to five years in Japan in sectors such as agriculture, nursing and construction (Shiraiwa, 2018).

3.1.3 SEZ approaches

China

China's experiment with SEZs started in 1980 as a part of a nationwide "open door" policy, in which five cities on China's southeast coast were designated as the first batch of SEZs. It was a big move for an economy barely recovered from the Cultural Revolution. One important goal of these SEZs was to test the efficacy of market-oriented economy, and if successful, some of the practices would be implemented more broadly in the country; another goal is to attract investments from overseas Chinese, which is why these SEZs were strategically located near Hong Kong, Macao and Taiwan. The Chinese government took a central role in zone development against the background of a largely planned national economy. SEZs are seen as a policy instrument to overcome constraints in the bigger environment to embrace foreign investment and the capital, skills and managerial know-how that come with it. In this sense, China took a heterodox approach at the beginning of its zone effort.

Encouraged by the initial success, China moved to set up more zones of various types at the state and provincial level, shifting its zone approach to aim at the global value chain and the agglomeration economies. Over the years, dozens of economic and technological development zones (ETDZ) were set up around the country to promote regional economy, high-tech industrial development zones were established to foster high-tech industries, and bonded areas and export processing zones were created to manufacture and export goods to the global market. The first batch of comprehensive SEZs are also being upgraded constantly to reflect the changing economic landscape. These zones have generated direct economic benefits, but more importantly, they helped empower Chinese firms to play a bigger role in the global value chain through "learning by exporting". China started from processing imported input with home-grown cheap labor to local sourcing and to independent R&D and branding – a clear trajectory of moving up in the global value chain could be noticed over the decades. Moreover, clusters have grown out of certain SEZs, and existing clusters have become stronger and bigger after the government made them an official SEZ. Such examples include the ICT cluster in Shenzhen, the electronics and biotech clusters in Pudong Shanghai, the software cluster in Dalian and the optoelectronics cluster in Wuhan (Zeng, 2012).

It could be noted that for decades, China's SEZ programs have always been integrated into the country's development strategy. If the first batch of SEZs is a controlled experiment to kick-start an underdeveloped national economy, the latest effort of setting up FTZs is a more assertive attempt at a new round of reform and opening up, and this time is against the background of a much stronger

national economy. As China's top policymakers decide to prioritize quality over quantity for future economic development, they expect that FTZs can lead this transition by offering investors business environment and institutional arrangements that match international standards. In this regard, the FTZ program is strongly associated with China's transition to a technology-intensive, service-oriented, consumption-driven and opened-up economy, for which the top leadership has invested significant resources and political commitment to ensure its success.

South Korea

South Korea started to proactively pursue an export promotion policy in the 1960s. Despite increased exports, the policy was not very effective in bringing in foreign investment; the first generation of free export zones were therefore established in the 1970s to attract foreign companies, particularly Japanese ones, to invest in labor-intensive light industries, through which it was hoped that exports could increase, jobs could be created and local firm could gain technological knowledge (Korean Development Institute, 2010). In this regard, a heterodox approach can be identified in South Korea's zone strategy, given its government-led nature and emphasis on technological transfer through foreign investment. However, by the end of 1990s, these free export zones encountered difficulties as Korea started to lose its advantage in labor costs. In response, the government actively adjusted its zone approach, shifting to the more advanced and value-added section of the international trade (for example, the tech-intensive electric industries). Existing free export zones were revamped into free trade zones as a result, and new free investment zones were established around the country. Compared with the first generation, these upgraded free trade zones feature more complex activities (logistics and commercial functions on top of manufacturing), more efficient management and higher regulatory standards.

In the early 2000s, fueled by a sense of crises from a rapidly rising China and technologically competitive Japan, South Korea set to promote a logistics and financial hub policy, aiming to make the country a 'Business Hub for Northeast Asia'. The thinking behind this policy is to make use of Korea's geographical advantage to pursue an open-door policy more active than its neighbors so that foreign investors can base their Asian business in South Korea. In 2003, free economic zones were set up in Incheon, Busan and Gwangyang, followed by a few more in 2008 and then in 2013. The country now has eight free economic zones evenly distributed across the nation. In addition, the government went ahead to designate science-oriented zones to further upgrade the economic structure, such as R&D Special Zones and International Science Business Belt (Korean Development Institute, 2016). While the first generation of export processing zones led by Masan contributed greatly to the country's transition from an agricultural economy to industrialization, the latest zones are supposed

to enable a shift from traditional labor-intensive and capital-intensive industries to high value-added, service-based and knowledge-intensive industries. (Jeong & Pek, 2016a, 2016b).

Similar to China, South Korea adopted a heterodox zone approach in the beginning and moved to a GVC approach and cluster approach after the heterodox approach started to lose its relevance. The Korean central government has played a crucial role in the development of major zone programs. For example, the Masan zone's administrative system was directly managed by the central government. The government has effectively integrated zone programs into the national development strategy and made long-term development plans for the zones; for example, in the case of free economic zones, a master plan is required by the law to be established every five years to ensure the systematic development of zones. However, strong political interests also led to excessive or poorly-planned designation of SEZs, which inevitably caused delayed development projects, shortage of resources, unnecessary competition and in the worst case, shutdown of zones (Korean Development Institute, 2016). By 2016, the Korean government has more than 200 zones at national and regional levels, including 15 free trade zones, 20 foreign investment zones, eight free economic zones and 166 regional development zones, and they generated very mixed outcomes.

Japan

Different from its neighbors, Japan's industrialization started much earlier during Meiji restoration in the late 19th century and was later fueled by the country's military expansion. Despite the defeat in 1945, Japan was able to rebuild its economy quickly with the help of its pre-war experiences and assistance from the US. From 1945 to the end of the Cold War, the world was amazed by what is often called the "Japanese economic miracle", in which Japan grew from a war-torn country to the world's second largest economy. Since the late 1960s, Japan's investment in its Asian neighbors increased rapidly, driving by rising costs at home and the export promotion policies applied to foreign investors in Asian developing countries (Urata, 1993). When South Korea and China were establishing SEZs to attract foreign investors and the capital and technology they could bring, Japanese companies were eying at these zones in an attempt to take advantage of the cheap labor, raw materials and new market its poorer neighbors could offer.

Japan embarked on its first comprehensive SEZ program only after the country was trapped long enough in economic stagnation. In 2003, the Koizumi administration promoted SEZs as a part of a national structural reform to move Japan out of the "lost 10 years". These zones are special because it might be the first time in Japan that private companies could propose to remove regulations that hinder their business, and this deregulation process is conducted on the local level so that it circumvented strong organized industrial interests on the national level (Harada, 2011). However,

these zones are different from the ones in South Korea or China in that they are not aiming at foreign trade or investment but at vitalizing the private sector through policy innovation. In this regard, they can be understood from a political economy approach, through which decision-making were decentralized to local governments that have a better understanding of local conditions and to private business with market knowledge, and resistance from large vested interests could be sidestepped. But such an approach could also create opportunity for rent-seeking at the local level, and the lack of consistent high-level commitment has resulted in very limited impact at the national level.

Following Koizumi's SEZs for structural reform, new SEZs programs were introduced by different administrations, and the latest major effort was made by the Abe administration in 2013, who introduced the National Strategic Special Zone program as part of the "Japan Revitalization Strategy", or the third arrow of Abenomics. So far, ten areas across the country have been designated as NSSZs, which according to Abe would "break through the tough bedrock of regulations" (Kameda, 2014). Each zone has its own major theme –medical technology for Kansai, labor reform for Fukuoka city, agricultural reform for Niigata city and Yabu city, tourism for Okinawa, and attracting international business for Tokyo (Hatta, 2015). In general, it's expected that through deregulation, incentives and better services, these zones can attract international capital, people and companies to strengthen Japan's international competitiveness in advanced technology and service sector. In this sense, the Abe administration has also moved to a GVC and cluster approach, drawing experience from China and South Korea.

While the 2003 Comprehensive Special Zones were initiated by local government to promote regional development, the 2013 National Strategic Special Zone program is led by the national government and is aiming for national economic growth. The program is endorsed by Prime Minister Abe himself, who chairs a special council that holds meetings regularly to oversee the progress. Abe also acted tough on ministers and other bureaucrats who tried to oppose the deregulation process. In Japan, strong and consistent political commitment from the top is needed to counter resistance from long-established invested interests in the public and corporate sector, or the new SEZs would end up little more than "a pipedream of reform and recovery" (Foster 2015), just like the previous zones.

3.1.4 SEZ legislation

China

Unlike many countries that have enacted an overarching law to guide the development of SEZs, China chose to gradually formulate and improve its SEZ legal framework rather than enact a statutory law right from the start (Peng & Fei, 2017). For the FTZ program, China does not have a statutory law passed by the National People's Congress to provide the legal basis for rule-making; instead, the State

Council issued overall plans to guide the development of zones. In 2013, the Standing Committee of the National People's Congress authorized the establishment the Shanghai FTZ and the selective adoption of certain national laws in the zone, including Law on Foreign-Capital Enterprises and Law on Sino-Foreign Cooperative Joint Ventures. Following that, the State Council was delegated the authority to pass the "Overall Plan for Shanghai Pilot Free Trade Zone", based on which the Shanghai municipality's legislative body issued "Regulation for Shanghai Pilot Free Trade Zone"; the Overall Plan serves as the primary guidelines while the Regulation specifies the details for zone management. One year later, the top legislature authorized the State Council to set up three more FTZs in Guangdong, Fujian and Tianjin, followed by seven more zones in 2017. The State Council approved an overall plan for each zone, and local governments followed with detailed regulations for zone development.

The absence of a basic law has raised concern over a few issues. First, the Overall Plan is drafted jointly by the local government and the Ministry of Commerce but is approved by the State Council. This involvement of multiple authorities has triggered heated discussion among law experts over the legal status of the Overall Plan – whether it is a local government ordinance or a ministerial regulation or an administrative regulation at the national level. Second, ordinances issued at the local level also challenges the national legal system, especially when their deregulatory provisions contradict with the national laws, as China is a unitary state where local government has limited legislative competency and cannot override national laws at will (Li, 2017). Third, without a basic law to stipulate the procedures and criteria for approving zone applications, the designation of zones can be poorly conducted, which will increase the risk of zone failure. Fourth, without overall supervision ensured by a basic law, local governments could rush to produce a labyrinth of rules and regulations that prove daunting for potential investors; it could also lead to vicious competition or even conflicts among zones. Law experts therefore calls for the enactment of an overarching act for FTZs by the National People's Congress (Qian & Hu, 2015; Peng & Fei, 2017; Li, 2017). The act should sit on top of the FTZ legal framework and serve as the basic law and primary guidelines for the FTZ program, providing detailed provisions for the designation, development, operation and management of FTZs.

South Korea

South Korea has taken a top-down legislative approach towards SEZs programs – an overarching SEZ act was passed through primary legislation before any zone was established, providing legal basis and guidelines for future rule-making. In the case of the Free Economic Zone program, the Special Act on Designation and Management of Free Economic Zones was enacted in December

2002 and was amended several times to reflect the latest policy changes. The Act provides a clear definition of "free economic zones" – a zone developed with the aim of improving the business environment for foreign-invested enterprises and living conditions for foreigners; it stipulates administrative and procedural rules regarding the making of zone master plans, designation of zones, implementation of zone projects, incentives and deregulation in the zone, institutional arrangements, assessment of project outcomes and penalties (Revised Special Act, 2017 [Republic of Korea]). Based on the Act, a structured and comprehensive legal framework was set up, which includes presidential decrees, development plans made by local governments, administrative regulations issued by ministries, and rules issued by zone authorities.

Japan

Similar to South Korea, the Japanese government achieves its policy goals through the law, including the constitution, statutes and administrative regulations. As an important initiative of the government, Japan's SEZ programs start with the enactment of an overall statute. The Special Zone for Structural Reconstruction Act passed in 2002 is the first act in Japan that was enacted for a comprehensive SEZ program (Harada, 2011). Similarly, Abe's SEZ program is based on the Act on National Strategic Special Zones passed in 2013. The Act specifies the purpose, definition and basic policy of the zone program; it also lays down administrative procedures for zone planning and project approval, special provisions for zone project regulations and the institutional arrangements in the zone. The Act has been revised many times in the short time after its approved to keep up with the latest zone development. Following the enactment of the Act, an enforcement order was issued by the Cabinet, and a series of law enforcement regulations for the special zones were rolled out by a number of ministries.

3.2 Zone-specific factors

3.2.1 Location

Shanghai FTZ

China's first FTZ is located in Shanghai, one of China's most important economic hub with most experiences in market-oriented reform. Shanghai was not included in China's first batch of special economic zones in the early 1980s, and reformer Deng Xiaoping reportedly regretted the decision of not making Shanghai a special economic zone along with Shenzhen and the rest (Guo & Wang, 2013). Instead, the central government announced in 1990 a plan to systematically develop the Pudong New

Area, which is where the Shanghai FTZ is located today. Since then, Shanghai has been playing the role of a bridgehead in financial reform, industrial development and foreign trade. As China's financial capital, Shanghai is a reasonable locational choice when one of key goals of setting up the FTZ is to experiment with financial liberalization (State Council, 2013).

Shanghai's advantageous geographical location has helped the city grow into a major business hub that boasts the country's best transport connectivity. Shanghai is strategically positioned at the estuary of the Yangtze River on the east coast, where the world's busiest container terminals are located. The Port of Shanghai has maintained a position as the world's busiest container port for a few years, serving as China's most important gateways to foreign trade (Shanghai International Port Group, n.d.). The city has two major international airports, of which the Pudong Airport is right next to the Shanghai FTZ. Pudong Airport is currently the third busiest airport in the world by cargo traffic, only after Hong Kong and Memphis (Airport Council International, 2018). In terms of railway connectivity, Shanghai is the largest railway hub on the east coast of China with three major railway stations and dozens of smaller ones, connecting North China and South China and radiating to the Yangtse River Delta with nine major railway lines (Lang, 2018). In Shanghai Master Plan 2017-2035, the municipal government sets the goal to promote the city's position as an Asia-Pacific airline gateway, upgrade its function as an international sea hub, and expanding the radiance of its railway network (Shanghai Urban Planning & Land Resource Administration, 2018).

The Shanghai FTZ can not only benefit from city's transport connectivity with the rest of the world but can also take advantage of its close proximity to China's most vibrant urban areas. The central urban district of Shanghai is the heart of this sprawling municipality where multiple urban functions converge, including financial, business, cultural, tourist and institutional functions. Thanks to the city's well-developed urban traffic network, the more remote parts of the FTZ is conveniently connected to Shanghai's urban center and can benefit from the latter's sophisticated urban functions. The Global Urban Competitiveness Report (2018-2019) ranks Shanghai's economic competitiveness at the 13th place and its sustainability competitiveness at 15th (CASS and UN-HABITAT, 2018). The Global Power City Index ranked Shanghai at the 26th, after evaluating its performance in economy, R&D, cultural interaction, livability, environment and accessibility (Mori Memorial Foundation, 2018). Compared with cities that often sit top in such rankings, Shanghai still lags behind in terms of competitiveness and internationalization. For example, the number of Fortune Global 500 companies that are headquartered in Shanghai is only 10 percent of that in New York, and foreign nationals in Shanghai only accounts for 0.9 percent of its permanent residents (NDRC, 2016).

Shanghai is also a leading city in the Yangtse River Economic Region, which is home to a cluster of China's most economically thriving cities. The Yangtse River metropolitan region consists of 26

cities whose total production takes up nearly 20 percent of national GDP; it is one of the most open regions to foreign trade and investment and has fostered an integral industrial chain with strong manufacturing and R&D capabilities (NDRC, 2016). Centered around the region's many industrial parks and development zones, a group of industrial clusters have taken shape, focusing on finance, electronics, automobiles, home appliances and logistics (Preen, 2018). This strong regional development can help provide inputs as well as consumer market to zone companies, through which process backward linkages can be fostered. In return, it is expected that industrial parks and special zones in the region, particularly the Shanghai FTZ, can play a catalyzing role to regional development and integration (NDRC, 2016).

Incheon FEZ

In 2003, South Korea set up its first and most promising free economic zone in Incheon, a city located on the northwest coast of the Korean Peninsula in the midway between China and Japan. It is estimated that about a quarter of the world's total population live within three and half hour flight from Incheon (Do, n.d.). A distance of 50 kilometers away from the center of the country's capital Seoul, Incheon is a part of the Seoul Capital Area, one of the most populated metropolitan area in the world and the industrial, business and cultural center of South Korea. In addition to being a gateway to the country's capital area, Incheon is also a portal to North Korea's Kaesong Industrial Region, a special administrative zone that has played a key role in economic collaboration between the two Koreas.

The Incheon zone boasts one of the country's best transport connectivity. The Port of Incheon is a leading port in the Yellow Sea area for international business, tourism and leisure, with a total of 128 berths and 43 routes to China, Southeast Asia, the United States and Africa (Jeong & Pek, 2016a). In terms of container traffic, the Incheon Port lags far behind South Korea's largest port, the port of Busan, not to mention the world's busiest ports in Shanghai and Singapore, but the Incheon Port recorded the highest growth rate in container volume in the year 2017, prompting the port authority to estimate that it would be able to enter the world's top 50 container ports very soon (Port of Incheon, 2017). The Incheon Airport, the largest Airport in South Korea and a hub airport in Northeast Asia, is included in the free economic zone. The airport is not one of the busiest airports in the world in terms of passenger traffic, but it has been consistently ranked among the top 5 airports by cargo traffic and has been awarded the best airport in Asia-Pacific for 12 consecutive years for its quality service (Wikipedia, 2018a, 2018b; Incheon Airport, n.d.). Within the country, the different parts of the zone are connected to each other as well as to nearby area through a sophisticated network of highways, railroads, subway lines and cross-sea bridges.

The Incheon FEZ also benefits greatly from the highly urbanized and economically active Seoul Capital Area. The Area consists of Seoul, Incheon and Gyeonggi-do; together they take up almost half of the country's population and contributing to nearly half of the national GDP. The capital city Seoul alone accounts for more than 20 percent of South Korea's GDP. It is the heart of national economy where high-tech industrial clusters, educated workforces and headquarters of Korean global conglomerates concentrate. Seoul received top rankings in various index on cities all over the world. It ranks the 15th in economic competitiveness and the 14th in sustainable competitiveness in the Global Urban Competitiveness Report (2018-2019), and ranks the 7th by the Global Power City Index. The larger part of the Capital Area Gyeonggi-do, as its name suggests, is the province that surrounds Seoul. The province has 28 cities and three counties and is home to one quarter of Korea's small and medium enterprise (GyeongGi-Do, n.d.). The province has developed a relatively balanced industrial structure, but a decline in traditional manufacturing and a shift to high-tech industry, services and soft power could be noticed in recent years (Lee et al., 2012). With Seoul and Gyeonggi-do serving as back-up of resources and a huge potential market, the Incheon FEZ has a higher chance of attracting investors.

Tokyo NSSZ

As the capital of Japan and one of the largest megalopolis in the world, Tokyo has been designated as a special zone in all of the country's three zone programs. As early as 2003, part of Tokyo was promoted as a special zone of structural reform under the Koizumi administration, with the aim to vitalize the private sector though deregulation. In 2011, the city's most central area at the waterfront was designated as a Special Zone for Asian Headquarters; the goal is to attract at least 400 foreign companies in advanced technology by 2020 though tax incentives, deregulation, administrative facilitation and financial support (Special Zone for Asian Headquarters, n.d.; National Strategic Special Zone Team, 2015). On top of the two former zones, a larger part of Tokyo was made one the first batch of National Strategic Special Zones by Abe administration in 2013.

Publicized as a gateway to Japan, Tokyo's convenient accessibility from overseas is one of the reasons the city is favored by special zone programs. The city owns two big international airports – Haneda Airport and Narita Airport – and both of them are included in the Tokyo National Strategic Zone. According to latest data from Airports Council International, Haneda Airport was ranked the fourth business airport in the world in terms of passenger traffic in 2017, and Narita Airport was ranked the eighth in terms of cargo traffic (Airport World, 2017). The Port of Tokyo is one of the largest ports in the Pacific Ocean basin; it is connected through a network of shipping routes to North America, Europe and the rest of Asia on a daily basis. According to the website of Tokyo Port

authority, it boasts the largest foreign-trade container throughput in Japan since 1998. In terms of railway connections, Tokyo is known for its complex but fairly efficient and well-organized rail network that consists of 13 subway lines, JR lines and private railway lines, allowing easy travel within the city; the city is also conveniently connected to Japan's other major cities via high-speed bullet trains.

Part of the Tokyo National Strategic Zone is located at the commercial center of the megalopolis and can benefit directly from the urban vibe. Tokyo Metropolis as one of the 47 prefectures of Japan has achieved numerous records at the national and international level. It is the most populated metropolis area in the world (approximately 37.8 million in the Greater Tokyo Area) with a yearly GDP that rivals that of Netherlands; the city hosts the most Fortune Global 500 companies (613) in the world, and is home to 76 percent of foreign companies in Japan; Tokyo was ranked the 9th in economic competitiveness and the 2nd in sustainable competitiveness in the Global Urban Competitiveness Report (2018-2019), and ranked the 3rd by the Global Power City Index, higher than the ranking of Shanghai and Seoul (Sawe, 2018; Urban Strength, n.d.; CASS and UN-HABITAT, 2018; Mori Memorial Foundation, 2018).

The zone can also benefit from the huge market and sophisticated consumers of the Greater Tokyo Area, an area that surrounds the Tokyo Bay and is widely regarded to be consisting of six prefectures in the Kantō region and Yamanashi prefecture in the Chūbu region. The Greater Tokyo Area has the highest population concentration in Japan; it has also achieved a high level of agglomeration economy. It is one of wealthiest metropolitan areas in terms of GDP and purchasing power parity, with strong consumer demand for high value-added goods and services; it offers large market potential for healthcare, information technology and renewable energies due to a rapidly aging population and energy shortage. Moreover, the area is home to a large number of small- and medium-sized companies as well as universities and research institutions, which can provide foreign investors in the zone a pool of potential business partners and highly skilled professionals. (Urban Strength, n.d.)

Figure 1. Great Tokyo Area (in blue) and Tokyo Metropolis (circled part). Reprinted from https://www.jetro.go.jp/ext_images/usa/tokyo_map2.2.png

3.2.2 Quality of infrastructure

Shanghai FTZ

Unlike the Shenzhen Special Economic Zone that started from a poor finishing village in the 1970s, the SPFTZ did not start from scratch but could rely on the sophisticated infrastructures provided by the existing four zones (see *Table 3*). In 2015, the Shanghai FTZ was expanded to include Lujiazui Financial District, Jinqiao Development Zone and Zhangjiang Hi-Tech Park (see *Table 4, Figure 2*), increasing the size of the zone from the original 30 to a total of 120.27 square kilometers. In 2018, China's State Council announced the decision to expand the Shanghai FTZ even further, though more detailed information has yet to be disclosed (Xu, 2018). It is not impossible that whole of Shanghai will be made a free trade city someday.

Table 4

Integrating four existing zones into the Shanghai FTZ in 2013

Name	Basic information	Area (km^2)
Waigaoqiao Bonded Logistics Park	China's first bonded logistics park Approved in 2003	1.02
Waigaoqiao Bonded Zone	Frist Bonded Zone in China Approved in 1990	10
Pudong Airport Comprehensive Bonded Zone	Built around the Pudong International Airport Approved in 2009	3.6
Yangshan Bonded Port Area	First Free Port in China Started operation in 2005	14.2

Note. Adapted from "The China (Shanghai) Pilot Free Trade Zone: Background, Developments and Preliminary Assessment of Initial Impacts" by D. Yao & J. Whalley, (2016), *The World Economy, 39* (1), page (7).

Table 5

Including three more areas into the Shanghai FTZ in 2015

Name	Basic Information	Area (km^2)
Lujiazui Finance and Trade Zone	The only national development zone focused on banking, insurance and securities Approved in 1990	1.7
Jinqiao Economic and Technological Development Zone	A leading zone of its kind; Approved in 1990 as Jinqiao Export Processing Zone, changed to current name in 2012	67.8
Zhangjiang Hi-Tech Park	A model for scientific and technological innovation; Established in 1992	75.9

Note. Based on information from the official website of Shanghai FTZ: http://www.china-shftz.gov.cn

Figure 2. The expanded Shanghai Free Trade Zone. Adapted from *Shanghai Daily*. Retrieved from https://archive.shine.cn/business/Investment-rules-may-be-eased/shdaily.shtml.

As the first bonded zone set up in China, Waigaoqiao has the largest economic output of all 15 bonded zones in China. The zone was set up in 1990 to promote free trade and export processing by cutting duties, taxes and customs formalities. The Waigaoqiao Bonded Logistics Park is right beside the bonded zone. As its name suggests, the park aims to provide logistics services with its large-scale container yards and warehouses. Thanks to its early establishment and close proximity to the city center, this area has developed sophisticated physical infrastructure after more than two decades of

development, including business office buildings, manufacturing facilities and logistics facilities. Now that the two zones are included in the Shanghai FTZ, regulatory plan shows that the authority aims to upgrade the existing infrastructure and make it an urban complex that offers multidimensional business functions in trade, finance, logistics, exhibition and advanced manufacturing as well as social functions in culture, entertainment and living (Shanghai Municipal Administration of Planning and Land Resources, 2014).

The Yangshan Bonded Port Area has both land infrastructure and deep-water port facilities. On land, a network of facilities for import and export, logistics, international transit, procurement and distribution has been largely established. On the sea, Yangshan deep-water port has finished its fourth stage of construction, and it is now the biggest deep-water port in the world (Marine Insight, 2017). As a key part of the Port of Shanghai, Yangshan port has recorded world-leading container throughput, and the use of automated handling equipment since 2018 is expected to increase efficiency and reduce carbon emission by up to 10 percent (Shi, 2017). Based on the regulatory plan, FTZ authority aims to develop this area into a globally competitive complex for international shipping services and offshore services, with facilities to conduct financial leasing, commodity trading, e-commerce, futures delivery and logistics business.

The Pudong Airport Bonded Zone's infrastructure advantage is built around the Pudong Airport, which is the world's third largest cargo airport and an aviation hub in the Asia-Pacific region, with air routes covering more than 100 international cities. The zone has developed an airport-related service chain that encompasses a distribution center, financial leasing business, a transfer center for express delivery, and sales of high-end consumer goods. The zone authority plans to focus on developing the existing functions and build a business complex in the zone that integrates hospitality, entertainment and high-quality residence (Shanghai FTZ Administrative Committee, 2014).

The inclusion of Lujiazui district has greatly boosted the infrastructure prowess of the Shanghai FTZ. Lujiazui offers the city's most well-known skyline after years of heavy investment and development since the 1990s, after the district was designated as a "finance and trade zone" at the national level, the only one in the country. The district is called China's "Wall Street" for its high concentration of skyscrapers and financial institutions. By September 2018, the district hosts 252 business buildings and more than 42,000 companies focused on shipping, trade and finance, including 842 licensed financial institutions, 17 major foreign banks, and almost 6000 private financial companies (Lujiazui Financial City, 2018). Lujiazui is branded as the Shanghai FTZ's testbed for financial reforms.

Jinqiao Economic and Technological Development Zone was called a processing zone for more than two decades until 2012, and the change of name indicates a transition of industrial structure from traditional to advanced manufacturing and services. Jinqiao zone today is leading other development

zones in terms of industrial scale and technological level. The zone has fostered clusters in car parts manufacturing, electronic information R&D and biomedicine; it is the Asian-Pacific headquarter of dozens of MNCs and home to more than 10,000 expatriates, thanks to its sophisticated infrastructure network comprising residential quarters, office buildings and supporting facilities; it has been awarded multiple times for its good living environment and green development. As a well-developed zone that has delivered successful outcomes itself, Jinqiao's inclusion is expected to add momentum to the development of Shanghai FTZ, particularly through bringing in international R&D talents and facilities, promoting high-tech manufacturing and creating a sustainable living space. (Shanghai Pilot Free Trade Zone, 2018; Shanghai Pudong New Area Government, 2017)

The Zhangjiang Hi-Tech Park is also one of the early zones set up in Shanghai to develop hi-tech industries. The idea is to make the park China's "Silicon Valley" or "Medical Valley". The zone has a clear layout; it consists of an innovation area for corporate R&D programs, a research and education area serving universities and scientific institutes, an industrial block for biomedicine and one for integrated circuits, a software park, and a residential area with supporting facilities for a comfortable living. The park now hosts 685 high-tech companies, 403 R&D institutions and 20 universities/research institutes. In the most recent development plan of the park, the Shanghai government aims to build it into a global innovation center and an eco-friendly urban district. Similar to the Jinqiao zone, Zhangjiang Park gave another boost to the size and infrastructure quality of the FTZ, and it is the most research-oriented and innovation-driven part of the FTZ. (Zhangjiang Hi-Tech Park, n.d.; Shanghai Municipal Government, 2017)

The fact that Shanghai FTZ is built upon former zones gives it a good lead in infrastructure development. Particularly with the inclusion of the three more developed zones in 2015, its quality of infrastructure is taken up a notch. However, the Shanghai FTZ should be more than a patchwork of former zones with uneven development. More effort is needed to build up interconnections between the different parts of the FTZ to facilitate the flow of factors and to make the zone an integrated whole. Moreover, the lack of social infrastructure in the less developed part of the FTZ should be addressed. The zone authority has noted these problems and has come up with some solutions. The zone's plan for land use stresses tasks to build public services facilities to serve people's needs for culture, sports, health and leisure, to expand green landscape, and to construct convenient bus routes within the zone (Shanghai Municipal Administration of Planning and Land Resources, 2014).

Incheon FEZ

The Incheon FTZ consists of three districts, respectively Songdo, Yeonjong and Cheongna (see *Table 6, Figure 3*). The Songdo area is built from scratch on reclaimed wetland from the Yellow Sea since the 1990s. After it became a part of the Incheon FEZ in 2003, a public-private effort was launched to build this area into Songdo International Business District, or an international city catering to foreign business. After more than a decade of development, which is still ongoing, the infrastructure of the Songdo city is often associated with two keywords – "green" and "ubiquitous". In terms of "green", according to the website of Songdo district, 40 percent of the city has been set aside as green space (Songdo IBD, n.d.); the city boasts a New York City style central park and an expansive network of bicycle lanes; seawater is used to create an ecological canal in the urban center; facilities are designed for low-emitting vehicles and a truck-free waste management system; and it is home to 22 million square feet of LEED[5]-certified space, accounting for 40 percent of all certified space in South Korea (Sawit, 2016). As to "ubiquitous", which means "public and private services can be delivered and received anywhere at any time to anyone" (as cited in Shwayri, 2013: 43), the city relies on information and communication technologies to digitalize its traffic system, energy consumption and even personal interaction. As one of the world's largest private real estate development program, Songdo allocated a half million square meters for residential space and 15 million square meters for office space and retail (Shwayri, 2013). The district is also home to the Korean campus of five foreign university, an endeavor that the authority has been pushing to make the zone more international and knowledge-oriented.

Yeongjong is an island connected to Songdo via the cross-sea Incheon Bridge. The center of the island is the Incheon International Airport, around which a few key projects have been and are still being developed to serve functions like tourism and leisure, logistics, and aviation industry cluster. To make the Incheon Airport a logistics hub, it was announced a Free Trade Zone, and an Airport Logistics Park was established to invigorate cargo traffic. The logistics park now hosts a great number of global manufacturing and logistics companies, including FedEX and Atlas Air; a pallet-sharing system and a cool cargo center are set up to improve logistics process. Air City, a large-scale resort complex that encompasses shops, hotels, casinos, resorts and other leisure facilities, was built near the airport to promote tourism and business. An aviation cluster is taking shape as big players like Boeing and Korean Air set up their presence there. To create a living space on the island, the Yeongjong Sky City is under construction since 2003 but will not be finished until 2020; the goal is to build a self-sufficient urban district with residence, cultural facilities and industrial facilities. A more ambitious project is the development of Midan City, which is envisioned as an international

[5] LEED, or Leadership in Energy and Environmental Design, is a widely used green building rating system. https://new.usgbc.org/leed

business and leisure hub with the aim to develop "beyond Hong Kong" (IFEZ, n.d.a). It is a joint project between Korean government agency and a few foreign developers, but progress has been sluggish despite the hype. Likewise, a few more projects targeting at tourism and leisure have been launched more recently for the coming years until 2020, but it might take much longer to transform visions into reality. (Incheon Airport, 2018; IFEZ, n.d.a).

Cheongna International City, the third district of the Incheon zone, is a coastal city north of Songdo and is linked with the Yeongjong Island through the Incheon International Airport Expressway. Cheongna is created as a multifunctional town focusing on business, finance, high-tech R&D, tourism and shopping. Projects that have been completed in the area include a main station, the headquarter of Korea's large financial group Hana, a R&D center of General Motors, an international school, a lake park and a golf club; projects still under construction include a Robot Land that promotes the robot-related industry, a high-tech park that aims to attract both domestic and foreign investors, a medical complex that consists of hospitals, a medical college and drug companies, a complex shopping mall, a large-scale financial complex that will be completed in 2025, and a city tower that is designed to be a new landmark of the zone. Similar to Yeongjong, development of Cheongna is characterized by a lack of momentum, with a few projects extending the deadline or even coming to a virtual halt, along with declining foreign investments (Nam, 2018).

Table 6

Three districts of Incheon FEZ

Name	Development goal	Area (km^2)
Songdo International Business District	Global business hub Green and smart city	53.36
Yeongjong International City	Center for aeronautical, logistics and tourism industries	52.48
Cheongna International City	Multifunctional town focused on business and finance, high-tech R&D, tourism and shopping	17.81

Note. Based on information from the official website of Incheon FEZ: http://www.ifez.go.kr

Figure 3. Three districts of Incheon FEZ. Adapted from the website of *Incheon Free Economic Zone*. Retrieved from http://www.ifez.go.kr/eng/ivi001

Tokyo NSSZ

Nine wards of the Tokyo Metropolis (see *Figure 4*) – Chiyoda, Chuo, Minato, Shinjuku, Bunkyo, Koto, Shinagawa, Ota, and Shibuya – along with Kanagawa Prefecture, Narita city and Chiba city in Chiba Prefecture have been designated as the Tokyo Area National Strategic Special Zone by the national government in 2014. The system of special wards is a unique feature of Tokyo. The wards can exercise more autonomy than what is normally understood as a district of a city. They are given legal status equal to that of a city in that a mayor can be elected and an assembly can be established, but they function as a single urban entity in respect to public services such as water supply and sewage disposal (Tokyo Metropolitan Government, n.d.b). Unlike special zones that are created from scratch, the nine appointed special wards have advanced urban infrastructures, and together they make up Tokyo's most vibrant commercial center. The three wards – Chiyoda, Chuo and Minato – are the very heart of Tokyo: Chiyoda is the political center where many government institutions are located, Chuo is the commercial and financial center, and Minato is the most international ward that hosts a large number of embassies and Japanese headquarters of MNEs. The three wards have seen and will likely continue experiencing faster population growth and supply of office buildings than other wards in the city (Mori Trust Group, 2016; Japan Times, 2017).

As a prefecture of the Great Tokyo Area, Kanagawa is closed connected with Tokyo Metropolis through high-speed transport networks of expressways and railways. It takes about half an hour to reach Tokyo Station or Haneda Airport from Yokohama, the capital of the prefecture. Kanagawa operates three major ports – the Port of Yokohama, the Port of Kawasaki and the Port of Yokosuka. The Port of Yokohama is the third largest port in Japan after the Port of Tokyo and Nagoya, but they

are dwarfed by the Port of Shanghai and Incheon in terms cargo tonnage. The prefecture's economic size is comparable to that of Malaysia and Singapore, and it hosts the second largest number of foreign firms in Japan, only after the Tokyo Metropolis. A large number of advanced biotech companies and healthcare-related business are clustered here, and the local government has taken opportunities offered by the special zone program to further develop healthcare robotics, biomedicine and clinical research, making Kanagawa a national frontier in this sector.

Chiba city and Narita city of the Chiba prefecture are also included in the zone. Narita city is where the Narita International Airport is located. The fast growth of the airport has shifted the city's economic focus to transport, tourism and logistics. The airport ranked the eighth largest in the world in terms of cargo traffic in 2017; it has the country's largest international air cargo logistics center, where 40 companies operate 43 logistics facilities in the airport and its vicinity area (Narita City Government, n.d.). Under the NSSZ program, Narita plans to attract more investments in the construction of bonded warehouses, bonded factories and bonded exhibition halls. Another endeavor that Narita proposed under the zone scheme is to build itself into an "international medical city"; the city moved to set up private medical schools, hospitals and nursing homes where foreign nationals can work as medical staff and can get treatment (Narita City Government & International University of Health and Welfare, 2013). This resonates with the nation's goal to break down invested interests and increase the competitiveness of the medical system. In 2018, a new medical school that recruits international students was set up in Narita by a private hospital chain operator, the first new school in Japan since 1979 (Anzai, 2018).

Chiba city, the capital of Chiba prefecture, is about 40 kilometers away from central Tokyo and is well connected with other big cities in the Great Tokyo Area through highways, railways and waterways. It is home to Chiba Port, one of Japan's international trade ports that handle highest volumes of cargo. Under the special zone program, the city can be exempt from relevant laws and regulations and can therefore move ahead to promote the industrial applications of drones and automated driving system (Chiba City Government, n.d.). The local government has formed partnerships with firms like Amazon and Japanese e-commerce giant Rakuten to test delivery drones (Smith, 2016).

The infrastructure reconstruction in postwar Tokyo, particularly driven by the 1964 Olympics, is believed to have formed the foundation for Tokyo's current prosperity (Whiting, 2014), but according to a recent report released by the Ministry of Land, Infrastructure, Transport and Tourism, the metropolis is losing its international competitiveness to other Asian cities, and an upgrade of infrastructure is needed to regain the lead, leveraging on the upcoming 2020 Tokyo Olympics (Nikkei, 2014). Against this background, infrastructure upgrade is set as a key task of the Tokyo National

Strategic Zone under the special provisions of the City Planning Act. In the metropolitan area of the zone, a number of redevelopment projects, including the construction of new stations, buildings, roads and urban facilities, have been approved to revitalize the urban environment; in the Greater Tokyo Area, projects to expand the two airports, the Port of Yokohama and Tokyo's ring roads are also under way (Japan Revitalization Strategy, 2013; Plaza Homes, 2017).

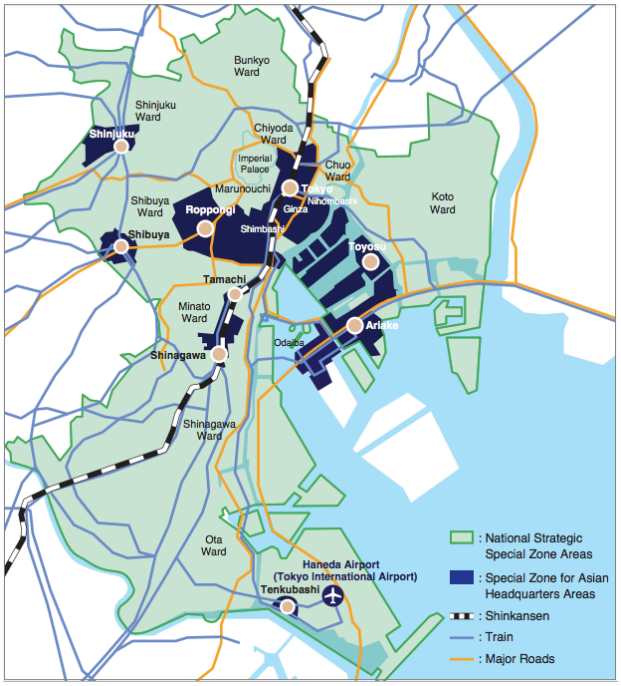

Figure 4. Tokyo's National Strategic Special Zone areas in light green, as of the end of March 2015. Only the area of Tokyo special wards is shown; Kanagawa Prefecture and Narita city are not shown in the map. Adapted from https://www.jef.or.jp/journal/pdf/201st_Cover_02.pdf.

3.2.3 Incentives

Shanghai FTZ

Like other special zones, the rollout of preferential tax policies is also an indispensable part of the Shanghai FTZ. Tax policies in the zone have taken on a few characteristics. First, investors might be disappointed for the relative lack of tax incentives in the zone. For example, the much-expected 15 percent corporate income tax is not applied in the zone, despite the fact that such a rate is offered in a few other special zones in China, like the Shenzhen SEZ. The Shanghai FTZ Overall Plan mentions concerns over base erosion and profit shifting, which resonates with the top leadership's vision of the zone – it is not about preferential policies but about regulatory and institutional reforms that could be extended to the rest of the country (Hu, 2014). A 15 percent corporate income tax would be unrealistic to apply nationwide and therefore is not introduced in the zone.

Second, the few preferential tax rules that have been introduced is focused on promoting foreign investment and trade. Regarding foreign investment, for enterprises or individual shareholders that invest in non-monetary assets, the income tax payable due to the increase in asset valuation can be paid by installments within a five-year period. To promote trade, financial leasing companies registered in the zone can enjoy export tax refund, domestic leasing companies can enjoy reduced import VAT when they purchase aircraft from overseas, and manufacturing companies may be exempt from taxes when they import machines, equipment and other goods to the zone. In addition, the tax policies of previous bonded zones are maintained in the FTZ, including the rule that goods can enter and exit freely between the zone and abroad and are exempt from tariffs. However, import VAT and consumption taxes will be applicable when products manufactured or processed in the zone are sold to the rest of Mainland China, though zone companies are not restricted from investing and conducting business outside of the zone. (State Council, 2013; Ministry of Finance et al., 2013)

Third, preferential taxes are inclined towards emerging industries, such as offshore trade, finance and financial leasing. The Overall Plan mentions that regulators should actively work on tax policies for overseas equity investments and offshore business, but a few years have passed and no such tax policies have been released yet. China has no experience with tax legislation for offshore financial business; as a result, tax policymakers have been cautious in drafting new tax codes, and they want to first learn from global offshore hubs like Hong Kong and Singapore (Yu, 2014).

In general, the preferential tax policies in the zone are selected from existing ones that have been applied in other special zones in China. Without an overarching law for free trade zones, the Overall Plan issued by the State Council provides basic principles for preferential tax policies in the Shanghai FTZ, based on which authorities like the Ministry of Finance, General Administration of Customs, State Administration of Taxation and local tax bureaus issued specific tax incentives, and the Shanghai National People's Congress issued rules to streamline the procedures for tax levy. One can see that the legislative framework for tax incentives in the zone relies on delegated mandate. Without oversight from top legislature, administrative bodies are prone to conflicting tax policies and abuse of tax preferences. In this sense, it's important that the tax regime in the zone be traced back to a statutory law like a Free Trade Zone Act, which stipulates basic principles for taxation in the zone (Ouyang, 2016).

In terms of financial incentives, an annual special fund is set up to support projects that can facilitate management, improve services and foster new industries in the zone. Such projects could be service platforms, regulatory systems, research centers or business incubators. Financial incentives are offered in the form of discount loans or subsidies to project developers which include government bodies, social organizations and enterprises (Shanghai FTZ Administrative Committee, 2017). The

Zhangjiang district of the FTZ, where the majority of high-tech companies and research institutions are located, are showered with government subsidies to start-ups, innovation projects, R&D activities and talent recruitment. Moreover, to promote financial liberalization, the Shanghai zone offers incentives not to be found elsewhere in the country. Companies are allowed to obtain offshore financing denominated in either RMB or foreign currency through Free Trade Accounts (FTAs). Under this scheme, companies can benefit from lower financing costs from outside China; they also enjoy greater flexibility in the volume and structure of financing.

Incheon FEZ

South Korea's Special Act on Free Economic Zones has provided clear guidelines for taxes and charges in the zones. According to the Act, the state or local governments may grant a development project operator as well as a foreign investor reduction or exemption from a wide range of taxes, including corporate tax, income tax, customs duties, registration and license tax, acquisition tax, property tax and so on. In addition to tax incentives, state or local governments may also reduce or remove many types of fees and charges for developers, such as farmland preservation charges, charges for causing traffic congestion, environment improvement charges or infrastructure charges, to name a few. Moreover, foreign investors can be exempt from charges for using national or public property. As to financial incentives, government authorities are allowed to provide funding for the development of medical, educational, residential and research facilities that are built to attract foreign investors, and they could preferentially subsidize all or some of the expenses incurred in constructing infrastructures, such as roads and water supply, in the zones.

Based on the Act, the Incheon FEZ has developed a competitive package of tax incentives for investors. If an investment fulfills certain requirements, for example, over US$30 million in manufacturing or over US$2 million in R&D, it will be exempt from paying corporate tax and income tax for five years and only pays half of the rate for the following two years. Moreover, acquisition tax is exempted for 15 years and property tax for 10 years for over US$10 million investment in manufacturing and tourism, over US$5 million in logistics and medical institution, and only over US$1 million in R&D. Such tax concessions show that high value-added activities (such as high-tech industries, research and development and biomedicine) and service sectors (such as tourism and logistics) are clearly prioritized over manufacturing.

In terms of trade, tariff is removed for five years for zone tenants that import capital goods. More benefits were offered at the Incheon Port and the Incheon International Airport. The two ports were declared as free trade zones in the early 2000s to develop international transshipment, trade processing and logistics functions, and now they are a part of the Incheon FEZ. Under the free trade

status, foreign goods that move between overseas and the zone (in the case of transshipment or manufacturing for export purposes) will be exempt from tariffs, domestic goods such as machinery and raw material used by companies for export purposes can enjoy reduction of or exemption from tariffs and value added tax (Act on Designation and Management of Free Trade Zones, 2018).

In addition, the Incheon FEZ offer great concessions in terms of land use. For example, investors are able to rent state or public land for 50 years at 1 percent of normal land price. Rent is completely removed or reduced by a certain rate depending on the nature of investment. For example, a company doesn't need to pay rent if it invests more than US$1 million in advanced technology industry or hires more than 300 employees or it exports its entire production overseas; it only needs to pay half of the rent if it hires 100 to 200 people or it exports 50 to 75 percent of its production overseas. Moreover, investors are entitled to various kinds of subsidiaries when they build new facilities (subsidy for facilities) or when they employ more than 20 workers (subsidy for employment). A national subsidy program is rolled out to support the establishment of foreign educational institute and research institute. For example, a maximum KRW1.2 billion is granted to cover part of the initial operating cost for a maximum of five years.

Table 7

Incentive package in Incheon FEZ

	Type	*Maximum*
Tax incentives	Corporate tax	exemption for 3 years and 50% for the following 2 years
	Income tax	exemption for 3 years and 50% for the following 2 years
	Tariff (imports of capital goods)	Exemption for five years
	Acquisition tax	Exemption for 15 years
	Property tax	Exemption for 10 years and 50% for the following 3 years
Financial incentives	Rent	100%, 75% and 50% reduction depending on investment value, employment and exports
	Employment subsidy	up to KRW 500,000/month per person
	Training subsidy	up to KRW 200 million per company
	facility subsidy	up to KRW 200 million per company
	relocation subsidy	up to KRW 300 million per company
	Subsidy for attracting foreign investment in education	Up to KRW 2 billion per year
	infrastructure subsidy	

Note. Adapted from https://www.ifez.go.kr/eng/ivt014

Tokyo NSSZ

Abe's National Strategic Special Zone program offers more fiscal and financial incentives than Japan's previous special zone programs. Cutting Japan's high corporate tax has been a consistent endeavor of the Abe administration. The country's corporate tax rate stood at a high level of 38 percent when Abe took office, while that of many advanced economies had been lowered to 20 percent or even less (Woodman, 2017). Japan's high tax rates have often been cited as a deterrent to FDI inflows. Acknowledging the importance of foreign investment, the Abe administration feels the pressure to reduce tax rates to the internationally comparable level. Against this background, effective tax incentives were introduced in the Tokyo National Strategic Zone after its establishment in 2014, reducing corporate tax to around 25 percent. With the government expanding tax reduction to the rest of the country, Japan's national corporate tax now stands at between 20 percent to 30 percent, and more cuts are planned for the coming years.

Moreover, companies directly engaged in government-designated business in the zone are eligible for a taxable income deduction of 20 percent; companies are also eligible to depreciation deduction or a tax credit for when purchasing machineries and R&D related equipment or buildings and facilities (tax incentives, n.d.). For example, a company can either go for an accelerated depreciation deduction equal to 50 percent of the acquisition cost for machineries or a tax credit equal to 15 percent of the acquisition cost for machineries (PwC, 2014). These tax incentives are targeted at companies that are engaged in R&D activities in the medical sector or other advanced technologies, or developers that build international schools.

Apart from tax incentives, an interest subsidy scheme is introduced in the zone to help SMEs and startups in R&D and high-tech industries. Startups and SMEs usually have difficulties borrowing from the bank, but under this scheme they have the chance to apply for low-interest loans at designated financial institutions when they fulfill certain requirements. The national zone authority did not introduce more financial incentives partly because Japan's local governments have launched their own investment promotion schemes. For example, in Tokyo Metropolis, subsidies are granted to overseas financial institutions (particularly asset management or Fintech companies) to cover part of the costs incurred during the process of establishing business operations in the city, including consulting fees and recruitment costs, and the maximal subsidy would cover half of the expenses incurred (Advantages of the Special Zones, n.d.). In Kanagawa prefecture, subsidies are offered to foreign companies (in robotics, energy, tourism, advanced materials, advanced medicine, electronics and machinery) to cover part of the expenses and rent incurred during starting a new business (Foreign Firm Setup Support Program, n.d.; Rent Subsidy, n.d.).

3.2.4 Deregulation

Shanghai FTZ

The Shanghai FTZ looks to set up a new type of regulatory regime that ensure equal treatment to both domestic and foreign investors, and then gradually extend this regime to the rest of the country if it works well. China is pressured by both internal changes (growth of private enterprises) and external forces (China's market economy status at the WTO) to deregulate its large domestic market, and the Shanghai FTZ is chosen as the test ground for such regulatory reforms (Hu, 2017).

Official rhetoric has it that the biggest innovation in the zone is to deregulate foreign investment under the scheme of pre-establishment national treatment and a negative list, which allows foreign investors equal access to all sectors except for those mentioned on the list. The first negative list for the zone was issued shortly after its establishment, while foreign investment in the rest of the country still relied on a positive list[6]. A few updated versions followed shortly with decreased number of items on the list (see *Table 8*). The newest version was issued in 2018 and its application was expanded to all 13 FTZs in China. The list covers 32 sectors with 45 special regulatory measures (25 prohibition measures and 20 restriction measures), which is a sizable cut from the original 190 measures (74 restricted and 38 prohibited) introduced in the first negative list in 2013. By taking a negative list approach, the Chinese government aims to further open up advanced manufacturing and service sectors to foreign investors. (State Council, 2013, 2017). A nationwide negative list for foreign investment was issued in 2017 and then revised in 2018, which is an extension of the negative list approach from the FTZs to the rest of the country, but the FTZ negative list still offers more relaxation than the nationwide list.

Table 8

Various versions of FTZ negative lists (number of items)

Year	Forbidden	Restricted	Special management measures	Authority
2013	38	74	190	Shanghai Municipality
2014	29	110	139	Shanghai Municipality
2015	37	85	122	Shanghai Municipality
2015	38	84	122	State Council
2017	36	59	95	State Council
2018	20	25	45	National Development and Research center

[6] The "Catalogue of industries for guiding foreign investment" was issued in 1995 and updated seven times in the years after. The Catalogue lists the industries that foreign investors are encouraged, allowed, restricted and prohibited to invest in, and all categories require government approval.

				Ministry of Commerce

Note. Based on data from Shanghai Municipal Government and the State Council.

Pre-establishment national treatment is offered to foreign investments in sectors not mentioned in the negative list, which means that foreign investors are treated no less favorably than domestic investors even at the entry stage. In the past, national treatment was only granted to foreign investors after their establishment in China. Under the new scheme, as long as foreign investors are not entering sectors stated on the negative list, they do not need to acquire a government approval to start a business; they are only required to file a record with the regulator and will be approved automatically. Pre-establishment national treatment is a common practice in international investment agreements, but China rarely made such commitment in bilateral investment agreement (as cited in Peng & Fei, 2017). The move to introduce national treatment under the negative list in the Shanghai FTZ is seen as an important part of the Party's pledge to reciprocal relations with its major trade and investment partners. The most substantial deregulation in the Shanghai FTZ can be found in the financial sector. Since the establishment of the Shanghai FTZ, financial regulators have taken the zone as a testbed and have since then issued nearly 100 deregulatory measures, aiming to build Shanghai into an international financial center and more importantly to promote internationalization of the RMB, an endeavor of strategic significance to China's long-term financial security (Xu, 2016). Based on policy documents issued by the central bank, financial deregulation in the zone are focused on three aspects (PBOC et al. 2015; PBOC Shanghai, 2014a, 2014b). The first is the promotion of capital account convertibility through the Free Trade Account. This new account allows free exchange between RMB and foreign currency, which can facilitate cross-border capital flow between the Free Trade Account and overseas account and can help lower the financing costs of companies. The second is the expansion of cross-border use of RMB by lifting restrictions on cross-border RMB settlement, overseas RMB borrowing and cross-border two-way RMB capital pooling. For example, the RMB pooling solution allows multinational companies to automatically sweep RMB between their onshore and offshore affiliates without going through the case-by-case approval process. The third is to open up the financial sector to both domestic and foreign financial institutions. Foreign-invested financial institutions are allowed to offer certain banking, insurance, securities and fin-tech business and other financial services. And fourth, foreign investors are allowed to invest in China's futures market, such as crude oil and gold futures market.

Incheon FEZ

South Korea is often cited by the OECD as a success story and a role model in terms of investment policy reform. Comprehensive and sustained reform measures since the 1990s and particularly after the 1997 financial crisis have transformed Korea from the second most restrictive country for FDI among OECD members to one of the most open FDI regime in Asia in terms of statutory restrictions (Nicolas, Thomsen & Bang, 2013). To put this transformation in perspective, Korea achieved the biggest improvement in OECD's FDI Regulatory Restrictiveness Index between 1997 and 2010 among a sample of 40 developed and emerging countries. The Korean government issues a negative list that includes sectors restricted or forbidden for foreign investments, with investments in restricted sectors subject to approval of relevant ministries. The negative list is a relative short one, with three sectors entirely closed to foreign investment (nuclear power generation, radio broadcasting and television broadcasting) and 27 sectors with foreign ownership ceilings (US Department of State, 2018). On top of that, public sectors of national security concerns are excluded from foreign investment, including administration, diplomacy, national defense, education, etc. (You & Lee, 2018). Compared with outside of the SEZs where the above-mentioned investment rules apply, foreign investors are allowed more market access in the Free Economic Zones. Based on the Special Act for Free Economic Zones, foreign investors are allowed to set up educational institutions in the zones after obtaining approval from the Ministry of Education, and the state or local government may provide investors funds necessary for purchase of sites, construction of facilities or operation. Likewise, foreign investors are also allowed to establish medical institutions, pharmacies, casinos, and broadcast channels that retransmit foreign content in the zone after obtaining permission from relevant ministries.

Another notable deregulation carried out in the zones is related to labor affaires. Foreign governments and investors have expressed worries about South Korea's high labor costs and inflexible labor arrangements. The Korean population has been aging rapidly, increasing the risks of labor shortage and skill mismatch in the future; rising wage levels are also posing a big threat to medium- and small-enterprises as well as affecting investment decision of foreign investors. Korea's labor market is also characterized by a dual system where regular workers enjoy high wages and social benefits while non-regular works tend to receive lower wages and are less likely to be covered by social benefits; this duality can be partly explained by ineffective labor regulations such as restrictions on dismissal of regular workers and a seniority-based pay system (Schauer, 2018). In order to attract investors to the Free Economic Zones, labor regulations are relaxed to introduced more flexibilities for foreign employers. Based on the Special Act, foreign-invested enterprises are not subject to certain articles of labor protection laws. For example, they are not obliged to hire the elderly or the disabled; they

are allowed to give unpaid leave to employees; and they may expand the type of work and terms for temporary agency workers.

Moreover, the Incheon FEZ is also exempt from some of the restrictions stipulated in the Seoul Metropolitan Area Readjustment Planning Act. The Act was introduced to restrain construction and expansion of facilities in the capital region so as to control population concentration and ensure balanced development at the national level. However, in contrast, the purpose of setting up the Incheon FTZ, which is located in the capital region, is to promote investment and attract population (Lee, 2011). To solve this conflict, the government lifted capital region regulations for foreign investors in the Incheon FEZ. For example, the Readjustment Planning Act forbids new construction or expansion of schools because it will induce population inflows, but foreign investors are allowed to set up educational institutions in the Incheon FEZ. Moreover, foreign investors are exempt from paying an overcrowding surcharge for their construction, and they are not subject to restrictions on the scale of development projects (KFEZ, n.d.). However, domestic investors still face capital region regulations when they plan to invest in the Incheon FEZ, which researchers argue is one of the major causes of subdued business activities and particularly investment decline in the zone, as a few Korean conglomerates have pulled out their investment due to control over their construction scale and lack of tax incentives (as cited in Lee, 2011).

Tokyo NSSZ

Japan is a large trading nation and an aggressive investor overseas, but the country's inward FDI stock to GDP ratio remains stubbornly far below OCED average level. Although Japan has the qualities (high R&D capabilities, educated work force, strong intellectual property protection, little foreign exchange control) that would theoretically make it an attractive destination for FDI, relevant studies found government regulations to be one of the deterring factors for foreign investments. For instance, FDI is rather limited or nonexistent in sanctuary industries that are protected by government regulations, such as healthcare, education, public utilities, agriculture and so on (Russell, 2017). Since Abe took office, he has made deregulation the foremost priority of his growth strategy. As a result, deregulation is also the most important theme of Abe's National Strategic Special Zones which he says will be a "drill to break through the tough bedrock of regulations" (Kameda, 2014).

The healthcare sector is one of Japan's fastest-growing industries due the rapidly aging population; it is also one of the most rigid sectors protected by government regulation and vested interests. It takes much longer in Japan to approve a new medical device or a new drug than other countries, as new drugs or medical devices have to go through clinical trials in Japan even after they are proven safe overseas. Under the special provisions, pharmaceuticals that have been approved by countries of

high medical standards can be allowed to get tested on patients in selected hospitals in the zones, and if they prove to be effective in the testing hospitals, they will be approved to be prescribed all over the country (Hatta, 2015). Currently there are seven hospitals in the Tokyo zone where the new rules are applied. Such a change would reduce the costs of clinical testing and is good news to foreign medical companies. Moreover, foreign doctors are allowed to treat patients of any nationality at medical institutions in the zone; in the past, they were only able to treat patients from their own country (National Strategic Special Zone, n.d.). Restriction on the number of hospital beds is also relaxed in some hospital in the zone, and new medical schools are allowed to be set up. These are bold deregulatory measures for a sector so entrenched with vested interests.

Urban planning and development in the Tokyo zone also saw notable deregulation. Under special provisions of the City Planning Act, 32 urban revitalization projects have been approved. These projects aim to build business centers, underground bus terminal and facilities with MICE functions (meetings, incentives, conferences and exhibitions), which is expected to cause an economic ripple effect of about 11 trillion yen; the Road Act has also been deregulated in the Tokyo zone to allow occupation of roads in the case of large-scale public events (National Strategic Special Zone, n.d.; Tokyo Metropolitan Policy Planning Bureau, 2017). Moreover, the rigorous floor-area ratio in Tokyo has been relaxed to attract more private sector investment (Hatta, 2015). Developers may find it more profitable to build offices than residential apartments under the old rules, but now many major developers have announced plans to build residential buildings in central Tokyo.

Deregulation in the labor market might be the biggest challenge for the zone authority. Japan's rigid labor market is quite often cited by foreign investors as an investment deterrent. The life-long and seniority-based employment system still dominates the Japanese corporate sector; foreign companies are discouraged to hire local workforce due to difficulties in dismissal. Japanese Labor Contract Law states that a dismissal will be regarded as a misuse of rights if it lacks reasonable grounds or is not considered appropriate in general social terms (Yashiro, 2014). To help decipher this vaguely-worded provision, an Employment Guideline was formulated to clarify for foreign employers the appropriate conditions for dismissals. This is hardly a deregulatory measure. The zone's effort in employment and labor reform is far below what many foreign companies have expected for, as proposals of more flexible labor practices have met opposition from the Ministry of Health, Labor and Welfare arguing strongly for labor security (Harner, 2013)

In addition to the above-mentioned deregulatory effort, rules over the mobility of foreign nationals is also relaxed in the Tokyo zone. Instead of completing all preparations such as finding a partner, employing people and renting an office before entering Japan, foreign entrepreneurs now can apply for a "business manager" visa which grants a half-year stay to make all the necessary preparations

for starting a business inside the country (National Strategic Special Zone, n.d.). Moreover, less skilled foreign nationals are allowed to work as housekeepers, a move expected to reduce household burden on married women so that they could participate more in the workforce (Kodera, 2016). The government has been promoting policies that encourage women to work in a country where female labor participation is among the lowest and gender pay gap is among the highest in OECD countries. Another deregulatory measure in the Tokyo zone that resonates with Abe's "womenomics" is the establishment of more childcare centers in urban parks or in office buildings, which will give more women the choice to free themselves from childcare (Tokyo Metropolitan Policy Planning Bureau, 2017). By relaxing certain laws and regulations, the test and application of self-driving technologies are allowed in the Tokyo zone, aiming to address the problem of traffic congestion and improve the competitiveness of Japan's key auto industry. In Chiba city (part of the Tokyo zone), the Civil Aeronautics Act has been deregulated to allow drone delivery (Tokyo Metropolitan Policy Planning Bureau, 2017). More deregulatory measures are being proposed at the local level, and they will be put into practices once approved by zone authority at the central level, but the decision-making process has been tough given the strong opposing forces.

3.2.5 Administrative system

Shanghai FTZ

An important objective of the Shanghai FTZ, as mentioned in the Overall Plan (2013) is to make government role in administrative regulation more streamlined and efficient. The Chinese government has always imposed strict administration over business activities in the country. Companies have to go through complicated licensing procedures to start a business, as reflected in the country's relatively low "ease to do business" rankings. According to World Bank data, the average time needed to start a business in China in 2017 is 23 days, much longer than in Japan and South Korea (World Bank, 2018d). To make a change, the Shanghai FTZ announced detailed measures to replace administrative approval for certain business activities with simply registration. For example, foreign investments in sectors not on the negative list are no longer screened but can be approved automatically after registration. Five years after the establishment of the zone, a number of 163 approval procedures related to market entry got either cancelled or simplified, and now it takes maximum 2 days to complete registration of a new business in the zone (Jiemian, 2018). A similar streamlining process is also going on outside of zone in China.

The Shanghai zone has been promoting a one-stop shop administrative system for starting a business. Instead of going to different regulatory bodies to hand in required documents and collect needed certificates or licenses, investors are now able to submit seven types of formalities at a single window,

including certificates for business registration, business operation, foreign trade registration, customs declaration registration, tax registration and so on (Xu, 2017). To make it easier for recruitment of foreign nationals, a single window is set up in the zone where relevant certificates for hiring a foreign national can be processed at one go (He, 2018).

To facilitate trade, the customs authority also rolled out measures to improve customs administration in the zone, including cutting down approval requirements, going electronic, and trying out new regulatory models – for example, goods can be allowed to enter the zone first and then file for declaration (GAC, 2014). The inspection and quarantine bureau also reformed inspection procedures in the zone by introducing electronic information services, relaxing import and export inspection, accepting third-party inspection results, and allowing foreign inspection agencies to operate in the zone (AQSIQ, 2015). Moreover, a single window system for international trade has been set up, which encompasses supervision from 25 government bodies and integrates multiple functions into one platform, including customs declaration, certification, tax payment, e-commerce and so on (Gu, 2018). The IT-based trade system is reported to have reduced costs and time for trade companies through simplification of procedures, and its data processing capacity has enabled regulators to supervise the movement of goods with more ease and higher efficiency.

Incheon FEZ

According to World Bank's data, starting a business in South Korea takes much less time and effort than the average level of OECD high income countries – it only takes two procedures and four days to register a business. With little room for improvement in this regard, the Incheon FEZ is focused on providing more value-added services for investors, particularly those with construction plans, to start their project in the zone. A one-stop service platform is set up that combines consultation (over investment opportunities, incentives, locations and potential partners) with administrative support (including agency business for foreign investors and coordination with authorities) (IFEZ, n.d.b). Consulting services are categorized by investment sectors. For example, foreign investors in the high-tech sector can contact the emerging industry division and a project manager will be designated to provide investment consultation. With this one-stop service covering the whole process from submitting investment proposal to signing a land contract, it is expected that investors can have a sense of orientation when navigating through administrative paperwork and dealing with multiple regulators.

In terms of customs administration, the inclusion of the Incheon Port and the Incheon International Airport has made Incheon FEZ one of South Korea's five main customs, in addition to Seoul, Busan, Daegu and Gwangju. Stressed by increasing trade volume, the Korean customs authority started to

automatize and digitalize the clearance process quite early. After decades of improvement, South Korean customs now boasts the world's first 100 percent electronic clearance system and provides the fastest service among World Customs Organization's (WCO) 182 members (Korean Customs Service, 2018). At the core of South Korea's high-quality customs service is UNI-PASS, an electronic system that encompasses multiple functions. The system's single window feature integrates 40 government agencies and connects around 430,000 trading and logistics companies (Cho & Nam, 2016). Instead of applying for import approval from different government regulators (such as food and drug administration and quarantine and inspection agency) and filing for declaration at the customs, trading companies can simply submit all forms through the online portal and get the results at one go. With paperless processing, the system is able to effectively reduce time of import clearance. Moreover, the system's cargo tracking function allows customs officers and traders to monitor the status of the cargo, and its risk management function can analyze customs data and create risk profiles of companies. The UNI-PASS system's single window and cargo management features have been recognized by the World Bank and the World Customs Organization as Best Practice, and it has been implemented partially in more than 10 developing countries in Africa and South America with the authorization of the Korean customs authority (Korean Customs Service, 2018).

Tokyo NSSZ

The Act of National Strategic Special Economic Zone stipulates that the government should provide information, consultation and other forms of assistance to foreign companies that plan to establish a business and hire employees in the zone. To fulfill this duty, a one-stop business establishment center was set up in the Tokyo zone, the first of its kind in the whole country (Tokyo One-Stop Business Establishment Center, n.d.). At the one-stop center, the various procedures required for establishing a business, such as certification of articles of incorporation, company registration, taxes, immigration and social security, are consolidated to a smooth process that can be completed at one go. Specifically, a foreign investor can visit the center and submit the required files at the right booth under the guidance of consultants there; investors can also ask for interpretation and translation services at the center. On the same floor of the one-stop business establishment center, investors can also find an employment consultation center, where attorneys with knowledge of Japan's labor laws and regulation provide consultations to foreign employers free of charge (Tokyo Employment Consultation Center, n.d.). Employers can visit the center to inform themselves of the labor rules and arrangements so that they can have a better understanding before recruitment; they can also go the center to seek mediation after disputes between employers and employees have occurred. In addition, the Tokyo Metropolitan Government also has a Business Development Center that offers

comprehensive services from business support to living support to foreign companies (Tokyo Metropolitan Government, n.d.a). A foreign investor can visit the center to acquire information on administrative procedures, business partners, fundraising, office renting, market expansion and other business-related consultation; they can also receive information on medical services, community and schools that can help them better settle down in the city.

In terms of customs administration, two of Japan's nine regional customs authorities are located in the Tokyo zone, supervising trade through two of the country's largest airports (Narita and Haneda) and a few top seaports, including Tokyo Port, Yokohama Port, Kawasaki Port, Yokosuka Port and Chiba Port. The government has been promoting the establishment of comprehensive bonded areas under the National Strategic Zone program, and Narita city as a part of the Tokyo zone has been approved to develop comprehensive bonded areas, in addition to existing comprehensive bonded areas in Kawasaki and Yokohama (Prime Minister of Japan and His Cabinet, n.d.; Japan Customs, 2018b). Japan's Nippon Automated Cargo and port Consolidated system (NACCS) has played a key role in processing import/export declarations at seaports and airports. After decades of development, the system has achieved full automation and a "single window" function that brings importers/exporters, multiple regulators, logistics companies and other relevant agents together and enables online filing with a single-entry form, significantly reducing overall time for customs clearance and other related procedures (Japan Customs, 2018a). Similar to South Korea's e-clearance system, Japan's NACCS system has been exported to ASEAN countries such as Vietnam and Myanmar to modernize their customs service and promote bilateral trade (Japan International Cooperation Agency, 2017).

3.2.6 Institutional arrangements

Shanghai FTZ

The Shanghai FTZ has taken a government-led institutional model. Unlike the public-private partnership which is widely believed to be the most desirable institutional model, the private sector plays no role in Shanghai FTZ's institutional arrangements. The Overall Plan (2013) states that the Shanghai Municipal government should set up an institutional framework suitable for the zone through local legislation. Following the plan, an FTZ Administrative Committee was established by the Shanghai municipal government to implement reform measures, fulfill administrative duties, enforce relative laws, coordinate different regulatory authorities, and provide services to zone tenants, as mentioned in the Administrative Measures issued by the Shanghai Municipal Government (2013). The Committee has very limited autonomy, as it is run by officials at the municipal level, and it has to share authority with the government of Pudong New Area (a district of Shanghai) in governing the

zone; five administration bureaus are set up under the Pudong government to oversee the five subzones[7], namely Lujiazui, Zhangjiang, Jinqiao, World Expo and the bonded zone; and a leading group consisting of different municipal-level regulatory authorities is placed above the Committee and district government to take overall control of the zone and to coordinate with the central government (Shanghai Pilot FTZ, 2013; Shanghai Municipal Government, 2015). One could see that the Shanghai FTZ does not have a single unified authority but a mixture of governing bodies at the subzone, district and municipal level. This co-existence of multilevel regulation within the zone could lead to conflict of duties and affect administration efficiency.

Figure 5. Institutional framework of Shanghai FTZ. Adapted from the website of *China (Shanghai) Pilot Free Trade Zone*, http://www.china-shftz.gov.cn/InstitutionalFramework.aspx?CID=845655BA-C13E-44A1-B861-0460EB9F9635&types=0&navType=1

The institutional regime of the Shanghai FTZ also lacks mandate from the central level. There is no special agency set up at the State Council or the ministerial level to oversee all FTZs; instead, the highest zone authority is at municipal level. The Shanghai FTZ is allegedly the brainchild of Chinese Premier Li Keqiang, who is a strong advocate of structural reform through further opening up China's economy. To carry out his economic thinking, which is termed "Liconomics" by the media, Li pushed for the establishment of the Shanghai FTZ against resistance from vested interests (Wan et al., 2014). However, the top leader's support is not institutionalized in any laws for the Shanghai FTZ, and therefore Li has not officially taken up any role in the FTZ authority. His endorsement of the Shanghai zone is reflected in his multiple visits to the zone after its establishment, but it is hardly a guarantee for the mandate nor autonomy of the zone.

[7] See the part on infrastructure for more details.

Incheon FEZ

Institutionally, South Korea takes a largely government-led approach towards the FEZ program, though the non-public sector is also invited to contribute their expertise on zone development. Based on the Special Act, a Free Economic Zone Committee is set up at the national level to make general decisions on the establishment and operation of all FEZs in the country. Its tasks include designation and revocation of zones, making development plans, coordination between central and local administration, and other matters prescribed by the president. The chairman of the Committee is the country's Minister of Trade, Industry and Energy, under whose leadership a dozen pubic officials at the vice-ministerial level are assigned as committee members to take care of their division of administration. In addition to that, ten non-public professionals, such as corporate executives and scholars, are appointed as members to advise officials on issues related to foreign investment, urban policy and so on.

At the local level, the mayor is heavily involved in the decision-making process of FEZs, as the Special Act gives the mayor mandate to appoint the commissioner and dispatch public officials from the local government for the administrative authority of the zone. Though the number of local public officials is not allowed to surpass a certain quota in the zone authority, the authority is basically operating as one of the departments of the municipal government (Shwayri, 2013). In the case of Incheon FEZ, the commissioner and vice commissioner govern four divisions that are respectively responsible for zone planning, investment opportunity, Songdo Business and Yeongjong-Cheongna business (IFEZ, n.d.c). The Incheon local authority has played a visionary role in the direction of the zone development. The former Incheon mayor Sang-soo Ahn who served until 2010 was the strong voice behind the building of Sangdo International City through public-private partnerships. But along with the recent decline in foreign investment partly caused by conflicts between zone authority and private developers, criticism against zone authority and its commissioner began to rise, prompting the current major to pledge a reshuffle of personnel arrangements in the zone authority (Nam, 2018).

The institutional regime of Incheon FEZ is a top-down hierarchy that covers a ministerial-level board, municipal government and zone authority. At the top is the ministerial-level FEZ committee serving as the chief planner and regulator of the zone program. However, the mandate of the committee could be made stronger by installing it under the president or the prime minister rather than a ministry. The Incheon FEZ saw the most vigorous development in the early days of its establishment, when it was directly chaired by the prime minister as a part of the Presidential Committee on Northeast Asian Cooperation under the Roh Moo-hyun administration, and its status waned after it's placed under the ministerial committee (Lee, 2007). At the zone level, the zone authority has a direct hand in daily administration and investment deals, but any decision made by the zone authority has to be approved

by the local government and ultimately the FEZ committee at the central level. In this case, coordination between the local authority and the central committee is the key; it has to be effectively managed so that local development can fit into the national strategy and the national committee can take full consideration of local demand.

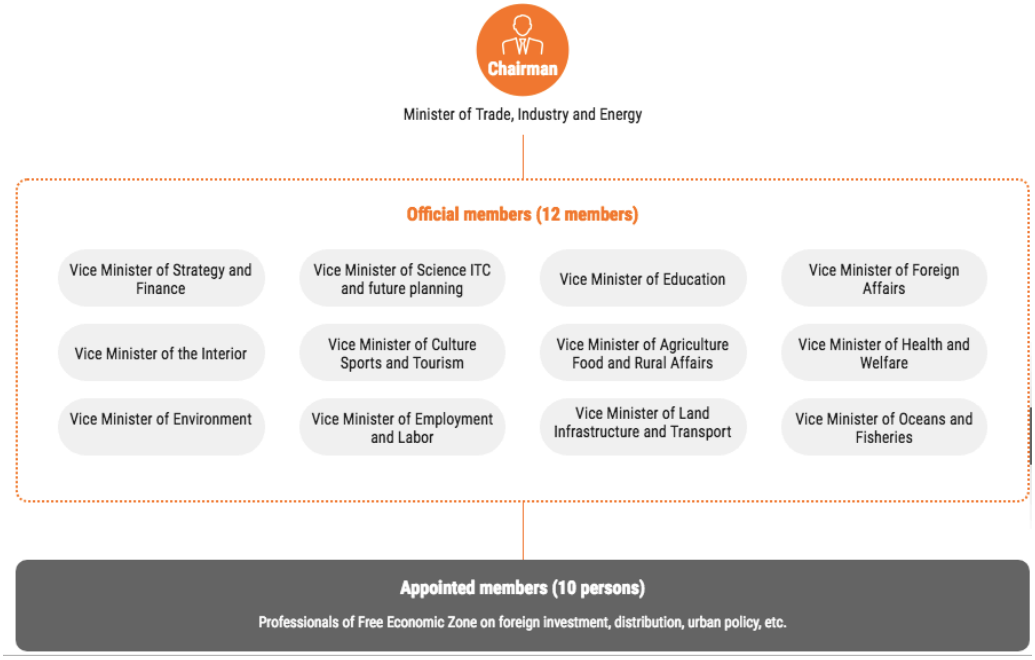

Figure 6. Institutional framework of Free Economic Zone program at the central level. Reprinted from http://fez.go.kr/global/en/intro/organization.do

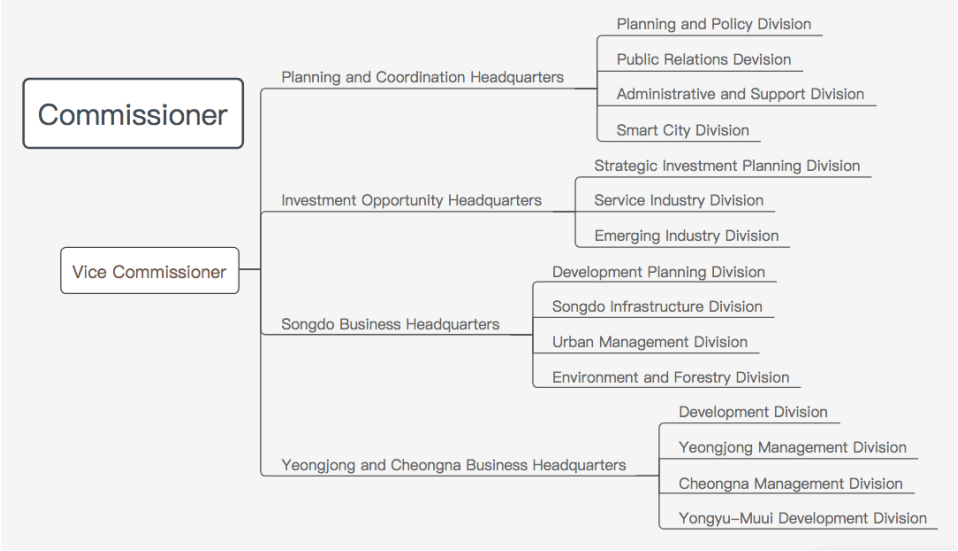

Figure 7. Institutional framework of Incheon Free Economic Zone. Adapted from https://www.ifez.go.kr/eng/abo4

Tokyo NSSZ

Compared with Japan's previous zone programs, Abe's National Strategic Special Zone program have taken on new institutional features that can increase the mandate as well as autonomy of the

zone authority – it is under direct oversight of the Prime Minister and it has invited the private sector in the decision-making process.

After Abe's roadmap – Japan Revival Strategy – to bring the Japanese economy back on track was approved by the Cabinet in 2013, the government set out to launch the National Strategic Special Zone program. A working group was set up to solicit reform proposals from local government as well as the private sector. Based on the feasibility study of the working group, the Act for National Strategic Special Zones was promulgated the end of the same year (Sasaki, 2014). Following the Special Zone Act, an advisory council was set up within the Cabinet Office to approve basic policies, zone designations as well as proposed projects submitted by local zone councils. The council is chaired by Abe himself and consists of official members and civilian members. The official members include Chief Cabinet Secretary, the minister in charge of special zones and other ministers appointed by Abe; the civilian members are people who possess knowledge of special zones from the cooperate sector and academic circle. The current lineup of the council consists of only four minister-level officials and five experts from the private sector, with the Prime Minister sitting at the top and taking overall control of the program (Harner, 2013). Ministers that have opposed reforms are not appointed as members of council; the Minister of Health, Labor and Welfare is one such example, who was openly against the proposal of more flexible labor arrangements. The absence of ministers with opposing interests and the participation of civilian members who generally support structural reforms can help secure a majority vote for deregulatory proposals. Such an institutional arrangement is criticized for prioritizing the benefit of global companies and foreign capital over national interests in the name of reform (Sasaki, 2014). However, by formulating a more top-down decision-making approach, this arrangement does ensure stronger mandate and higher efficiency for zone authority at the central level.

At the local level, the Tokyo Metropolitan Zone Council was set up to oversee the development of the Tokyo zone. The local zone council is also built upon a public-private model: its members include the minister in charge of the special zone program and heads of local government departments; private sector members are also invited in the negotiation process. The local council drafted development plan that specifies projects in the zone and holds meeting regularly to update the plan. Reaching a consensus is much easier at the local level because organized interests are not as strong as at the national level. However, the mandate of the local zone authority is rather limited, as every local project has to be approved by the central council to be carried out in the zone. Japan's legislative structure determines that local governments have no authority to act above national positive laws, and therefore local projects that requires deregulation of national laws and regulation have to be approved by the Cabinet (Harada, 2011). In the case of the special zone, there are at least two times

every year when local zone authority can submit proposed projects to the national advisory council which will then negotiate the matter with relevant regulatory agencies; once the proposed projects are approved, it will result in the revision of the Act for National Strategy Special Zone and the implementation of the projects at the local level (Cabinet Office, n.d.). In this process, coordination and negotiation between the central and local zone authorities is the key. This central-local interaction under the special zone program ensures that local demand for reform can find a channel to reach top decision makers; at the central level, a strong authority can respond fast to local proposals and therefore effectively push forward reforms.

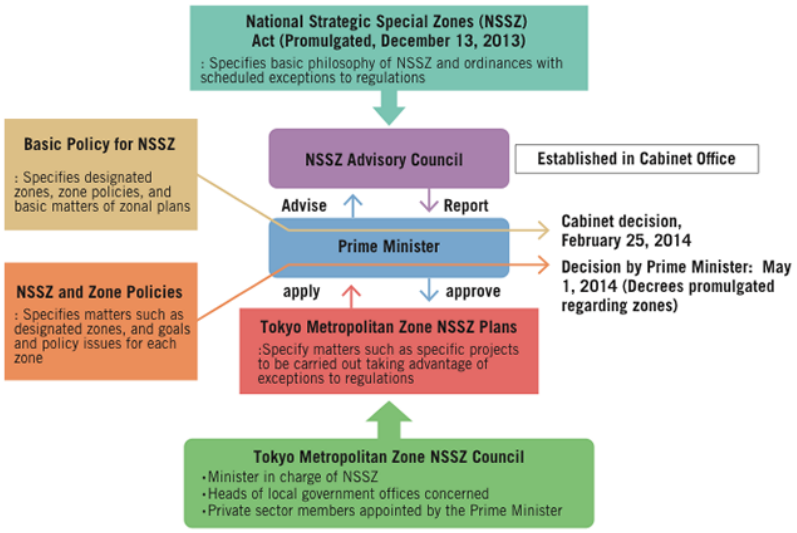

Figure 8. Institutional framework for Japan's National Strategic Special Zone program and the Tokyo NSSZ. Reprinted from http://www.pref.kanagawa.jp/mlt/f531223/p1002208.html

4. Comparative Analysis

Investment climate

Along with the trend of global economic integration since the 1990s, East Asian countries also moved to lower their trade and investment barriers, driven by domestic demand for growth and external pressure from economic partners as well as multilateral organizations. As the OECD's FDI restrictiveness index shows, China and South Korea experienced a clear trend of deregulation since the 2000s. Korea's effort to relax FDI rules was particularly effective after the Asian financial crisis, while China's effort since 2014 delivered significant results; Japan has stayed largely open to foreign investment after removing barriers in the 1970s and 1980s, but its FDI stock remains the lowest among developed economies, largely due to its geographic isolation, lack of resources and

unwelcoming business practices (Paprzycki & Fukao, 2005; US State Department, 2018). Generally speaking, the Japanese government imposes less restrictions on foreign investors than China and Korea in terms of restrictions over equity ratios, personnel, investment approval and operation, while China remains relatively closed to foreign investment.

Index such as Doing Business, Global Competitiveness and Governance also rank Japan and Korea at a higher place than China. Interestingly, Japan's rank in Ease of Doing Business has been deteriorating over the past decade to the 39th place among 190 economies, while that of China's has been improving slightly over the years and surged in 2018 to the 46th place; South Korea performs the best of the three countries. Specifically, it takes more time and procedures to start a business in Tokyo than in Shanghai and Seoul, companies are subjected to more tax burdens in Tokyo and Shanghai than in Seoul, and getting a construction permit is most troublesome in Shanghai. Despite China's lower rankings in these indexes, a clear uptrend can be noticed over recent years, which speaks to the Chinese government's effort in improving business environment in the country, and the FTZ program is a key part of this effort.

Table 9

Comparison of indexes related to national investment climate in China, South Korea and Japan

Index	China	South Korea	Japan
Doing Business (2019)	46	5	39
Global Competitiveness (2018)	28	15	5
FDI Restrictiveness	0.316	0.135	0.052

Note. Doing Business data is adapted from *Doing Business 2019: Training for Reform* by World Bank, 2018, Washington DC: World Bank Group. Global Competitiveness data is adapted from *The Global Competitiveness Report 2018* by World Economic Forum, 2018, Geneva: World Economic Forum. FDI Restrictiveness data is adapted from https://data.oecd.org/fdi/fdi-restrictiveness.

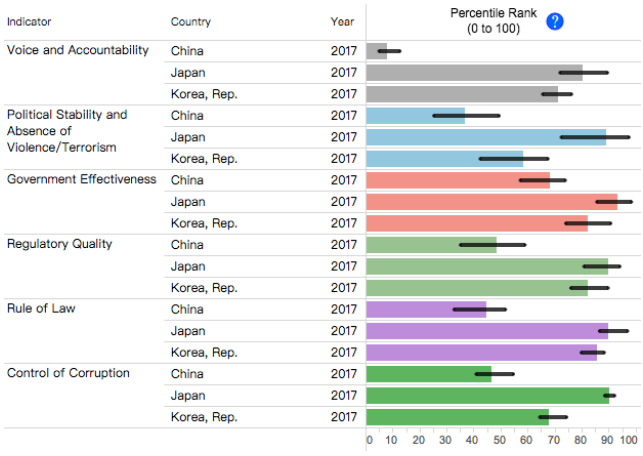

Figure 9. World Governance Indicators, Percentile Rank (0 [lowest] to 100 [highest]) of China, South Korea and Japan. Adapted from OECD FDI Restrictive Indicator https://data.oecd.org/fdi/fdi-restrictiveness.htm

Human capital

Educational indicators show that both South Korea and Japan are leading the world in education. Their solid educational system and strong societal value placed on education have supplied highly educated workforces to the employment market. China is lagging far behind its two neighbors from a nationwide perspective, but when the scope is narrowed down to Shanghai, China's most developed metropolitan on the east coast, its performance in education is on par with Tokyo and Seoul, or even more competitive if one looks at OECD's PISA test results. Apart from fostering home-grown talents, the three countries all have recognized the importance of human resources mobility and the catalyst role of international talents in vitalizing the economy. As such, the three countries have rolled out policies to attract foreign talents in key industries, and they are competing with each other to have a bigger slice of pie in the global talent markets. For example, China has the "Thousand Talents Plan", South Korea has the "Brain Pool Program", and Japan recently allows high-skilled professionals to apply for permanent residence after one-year stay. Despite the effort, the three countries still have much room to improve their attractiveness to foreign workers – Japan is ranked 29th, Korea 33rd and China 39th of 63 countries in the 2018 IMD World Talent Ranking; however, the survey showed that foreign highly-skilled personnel are more attracted to China's business environment (ranked 28th) than Japan's (50th) and Korea's (49th) (IMD 2018).

SEZ approaches

China and South Korea are similar in their approaches towards SEZs – they have taken a heterodox approach in the beginning and then gradually moved on to more dynamic approaches that aims at the global value chain and agglomeration. SEZs in the two countries, even the early ones, are not designed as enclaves that are disconnected with the larger economic environment, which partly explains the more dynamic outcomes achieved by SEZs in the two countries than those in countries such as Cambodia, Myanmar, Mongolia and Pakistan. These countries used an orthodox approach to set up enclave-type zones; these zones might have generated significant direct benefits in the early years but somehow failed to catalyze structural change in the country due to lack of linkages with the wider economy (ADB, 2015: 78-80). In China and South Korea, SEZ programs have always been integrated with the country's national development strategies, and strong state support has been in place to ensure spillovers. As the first generation of SEZs based on the heterodox approach lost relevance under new circumstances, the two countries shifted to approaches that aim to move their domestic companies up the GVC through technology transfer and cluster effect.

In comparison, Japan took a different path to industrialization, and SEZs played no role in this process. As one of the first Asian countries to become a developed economy, Japan actively invested in South

Korea and China's early zones in the 1970s and 1980s. The effective results of SEZ programs in promoting industrial upgrade and economic growth in South Korea and China might have inspired Japan after the bubbled burst and the economy entered stag-deflation. For a largely open and liberalized economy like Japan, the conditions for orthodox or heterodox approaches to SEZ programs no longer apply. Japan's first comprehensive SEZ program can be best understood from a political economy approach in that SEZs serve as a mechanism to circumvent state invested interests and to empower local authority and private sector. When it comes to the country's latest SEZ program initiated by Abe, a converge in zone approach can be noticed when compared with China's FTZ program and South Korea FEZ program. The three countries all have adopted a GVC and cluster approach to their latest major SEZ program, aiming to strengthen their international competitiveness in new-generation technologies, advanced manufacturing and modern services – activities that are at the higher value-added end of GVC. This converge of zone approaches can be explained by the three countries' converging comparative advantages and narrowing development gap, despite their own unique economic conditions; it also puts their zone programs at more direct competition with each other, as reflected in the rivalry of the three countries for regional leadership.

SEZ Legislation

South Korea and Japan are similar in their legal framework for SEZ programs. It started with the enactment of an overarching SEZ act passed at the country's top legislature before any zone was established. The act usually specifies the purpose, definition and basic rules for the designation, development, operation, management and even assessment of the zones. Following the act, the chief executive body and ministries will issue orders, overall plans and regulations for the implementation of the zone program, and local governments and zone authorities are supposed to draft development plans and administrative rules for the specific zone under charge. As such, a structured and comprehensive legal framework is set up to provide legal support to business activities in the zones and ensure rule-based development of the zones, which is seen as a desirable model for SEZ legal framework.

China, on the other hand, held back from an overarching statutory FTZ law and chose to gradually formulate its legal framework by relying on local legislation. Local legislation is preferred in this case for its higher flexibility and lower costs, as local governments can adapt rules and regulation to local conditions, and the potential negative effect of poor policies can be constrained at the local level. Given the scope of the reform and the stakes involved, an overall act that applies to the whole country seems immature and impractical at the beginning; instead, it is hoped that the Shanghai pilot zone's experiences can help with the legislation of a basic law. While law experts disagree on the legislative

competence of local government, the negative side of the not having a national FTZ law starts to show as more zones are established around the country. It has become imperative to draft a national law to ensure the stable, effective and balanced development of the country's FTZs. In this regard, South Korea and Japan's SEZ legal framework can provide valuable insights to China.

Location

The three cities – Shanghai, Incheon and Tokyo where the zones are located – all enjoy one of the best geographical positions within the country and are very much on par with each other when compared at the international level, though the Incheon zone does have a point branding itself as a "business hub for Northeast Asia", considering the fact that it is located in between the two other zones and about a quarter of the world's total population live within 3.5-hour flight from it. First, the three zones all have achieved a high level of multimodal connectivity – they are home to the country's largest ports and busiest airports and have well-developed railway, highway and waterway networks that connect them conveniently with other cities in the region. Particularly, Shanghai FTZ boasts the world's busiest port in terms of throughput and the third busiest airport in terms of cargo traffic, thanks to its large hinterland. Second, the zones are close to or even incorporate parts of the country's most vibrant urban center. Parts of Shanghai and Tokyo's downtown areas are included in the Shanghai zone and Tokyo zone respectively, while the Incheon zone is some distance away from downtown Seoul. Shanghai, Seoul and Tokyo are all well-recognized power cities in the world; Tokyo may be ranked the highest in global indexes, but Shanghai shows strong momentum in catching up. Third, the three zones can all benefit from a strong regional economy when backward linkages are fostered – the Yangtze River Economic Region accounts for nearly 20 percent of national GDP, the Seoul Capital Area generates almost half of national GDP, and the Greater Tokyo Area contributes to more than 30 percent of Japan's GDP; and the three regions all boasts industrial clusters and a sophisticated consumer market.

Table 10

Comparison of locational factors among Shanghai, Seoul and Tokyo

Index	Shanghai	Incheon	Tokyo
Port	Port of Shanghai	Port of Incheon	Port of Tokyo Port of Yokohama
Airport	Pudong Airport Passenger: 9 Cargo: 3	Incheon International Airport Passenger: 19 Cargo: 4	Haneda Airport Passenger: 4 Narita Airport Cargo: 8
Global Urban Competitiveness	Economy: 13 Sustainability: 15	Economy: 15 Sustainability: 14	Economy: 9 Sustainability: 2
Global Power City	26	7	3
Regional strength	Yangtze River Economic Region	Seoul Capital Area	Greater Tokyo Area

Note. Numeric number means international ranking. Data adapted from "ACI reveals the world's busiest passenger and cargo airports" by Airport World, 2017, April 9; *Global Urban Competitiveness Report* by CASS and UN-HABITAT, 2018; *Global Power City Index 2018* by Mori Memorial Foundation, 2018.

Infrastructure

Different from the Shanghai zone and Tokyo zone that are established on a more or less solid infrastructure foundation, the Incheon zone was built on a mere vision in 2003, and many infrastructure projects are still under construction after more than a decade of development. Take Songdo as an example, the development of this part of the Incheon zone relies heavily on private investments or public-private partnership. Though the city has fallen short of its demographic goal, and lack of business interest has led to a halt of certain development projects, what the city looks like now is a drastic change from the barren reclaimed land some 15 years ago. The Incheon zone may not have a fully developed infrastructure as part of the zone still looks half-built, but the parts that has been finished are built with high standards and are functional. By contrast, the Tokyo zone boasts the most sophisticated urban infrastructure offered by the capital city. Under the zone scheme, redevelopment projects were introduced to construct new buildings, stations and urban facilities; the goal is to increase the city's international competitiveness by upgrading its infrastructure, leveraging on the opportunity of the 2020 Tokyo Olympics. Likewise, the Shanghai zone is built on existing zones rather than starting from scratch, but infrastructure upgrade is needed in the less developed

parts of the zone. The uneven infrastructure quality among different parts also requires efforts to build up connections and facilitate factor flows.

On a different note, the three zones have more similarities than differences in their infrastructure development. first, they all have built up robust transport infrastructure, including advanced port and airport facilities, laying a solid ground for further development. Second, they are focused on developing infrastructure for businesses that will be the next growth drivers, such as high-tech industries and modern services. For example, the expansion of the Shanghai zone is targeted at the promotion of financial services, high-tech manufacturing, R&D and innovation; the Incheon zone made a point to foster high-tech industries like aeronautics, robotics and medicine; the Tokyo zone also seeks chance to profit from its scientific and technological prowess in healthcare robotics, biomedicine, drones and automatic driving. Third, they all attach importance to the development of social infrastructure. The Shanghai zone started to emphasize social functions like cultural services, entertainment and sustainable living space in the zone; the Incheon zone aims to establish itself as a model of smart city, relying on ubiquitous information and communication technologies to managing urban infrastructure and city services.

Incentives

In terms of tax incentives, the Incheon zone offers most competitive package of tax breaks of the three zones, while tax concessions in the Shanghai zone can be quite a disappointment to investors, as some of the much-expected tax cuts are not applied in the zone. The Chinese government has made it clear in the beginning that the zone is not about preferential policies but about regulatory and institutional reforms; they emphasize a stable and transparent tax regime over tax breaks, wary of the negative effect of tax breaks on profitability and competition mechanism. However, for a zone like Incheon that starts from scratch, it relies on big tax cuts to attract developers and investors at the early stage of infrastructure construction and cluster formation. As to the Tokyo zone, tax reduction effort in the zone seems rather limited when compared to that of Incheon zone, but it is greater than Japan's previous zone programs, with the Abe administration pledging to cut tax rates to the internationally comparable level.

South Korea and Japan both have a basic law that provide guidelines for rolling out fiscal and financial incentives in the zones. For example, South Korea's Special Act on Free Economic Zones stipulates the types of taxes and financial support the state or local governments can grant to developers and investors in the zones. In contrast, China has no such law but depends on delegated legislation to the local governments. Scholars argue that the Chinese legal framework for tax regime in free trade zones is more prone to a race to the bottom among different zones, and it is proposed

that the tax regime be traced back to a statutory law like a Free Trade Zone Act which stipulates basic principles for taxation in the zone.

The three zones also share a few similarities in their incentive packages. First, both fiscal and financial incentives are used to attract investors to the zones, though the variety and scope of concessions may vary. Second, tariffs are exempt for all goods that enter and exit between the bonded part of the zones and abroad, taking advantage of the zones' airport and port facilities to promote export processing and intermediary trade. Third, incentives in the zones are focused on fostering new emerging industries that can create more added value; the development of advanced technologies received most state support, as countries contend for a lead position in the new round of industrial competition. For example, state support in the Shanghai zone are inclined towards financial services, innovation projects, R&D activities and talent recruitment; tax breaks and subsidies in the Incheon zone prioritize advanced technology, tourism, logistics and education; tax incentives in the Tokyo zone are also targeted at companies that engage in R&D activities in high-tech industries.

Deregulation

As has been discussed above, Japan imposes less restrictions on foreign investment than China and South Korea in terms of restrictions over equity ratios, personnel, investment approval and operation, and China remains relatively closed to foreign investment. China is the latest to introduce a negative list for foreign investment, starting in the Shanghai FTZ and then extending to the rest of the country, while South Korea shifted from a positive list to negative back in the 1980s, and its current negative list is much shorter than China's; Japan has removed most formal restrictions on FDI except for a few strategic industries that have a stake in national security, public infrastructure and public safety.

Although the three countries started from different places, their zone programs have all made deregulation a top agenda, positive that deregulatory measures will bring in competition and generate new growth as well as social benefit. Deregulation has been most forceful in the Shanghai FTZ, and the goal of deregulation is to reduce unfair treatment towards foreign investors, with foreign investors complaining about policy favor towards domestic enterprises and China's major economic partners pushing for reciprocity. Under the scheme of pre-establishment national treatment and a negative list, foreign investors are supposed to be treated no less favorably than domestic investors when they invest in sectors not mentioned on the list. Foreign investors are allowed to invest in more service sectors, particularly the financial sector, but they are still under much more restriction than domestic firms in many ways. The Tokyo zone also highlights relaxation of deep-rooted regulation, as Abe has made deregulation a priority of his growth priority, but its goal of deregulation is more about overcoming vested political and business interest to generate more competition and vitality in the

targeted sectors. For example, long-protected sectors like medicine and healthcare have been deregulated to invite more market players in the sector, be it domestic or foreign companies; regulations over the auto industry and aeronautics industry have been relaxed to allow playground for new technologies like self-driving and drones.

What the Incheon zone and Tokyo zone have in common is deregulation in the labor market, as rigid labor arrangements in the two countries are often seen as a deterrent to foreign investments. The labor market in Japan and South Korea are characterized by a rapidly aging working population, a seniority-based pay system and life-time employment. These rigid labor arrangements have proven no longer efficient nor competitive in the globalized market, pressing their governments to seek changes. In the Incheon zone, certain labor protection laws have been relaxed to allow foreign investors more flexibility in giving unpaid leave and hiring temporary workers. Labor reform in the Tokyo zone has met strong opposition at the ministerial level on grounds of labor security; no substantial deregulatory measures are introduced except for a guideline that helps clarify dismissals conditions for foreign employers. On the bright side, the Tokyo zone has relaxed restrictions on foreign national inflows by easing rules for business visa and allowing less skilled foreign nationals to work in services.

Administrative system

China has lagged behind South Korea and Japan in the World Bank's 'ease to do business' ranking. Specifically, it took more days to start a business in Shanghai than in Seoul and Tokyo. When the Shanghai FTZ was established in 2013, one of the primary goals is to transform government role and streamline administrative procedures. New practices to cut down red tape in the zone and their expansion to the rest of the country have achieved remarkable results. The latest data shows that the time needed to start a company in Shanghai has been reduced to nine days, even shorter than Tokyo's eleven days.

The three zones have all set up a one-stop service platform for business entry. It is an innovative practice for the Shanghai zone and Tokyo zone, as they were the first in the country to set up such a platform for investors. The one-stop system of the Shanghai zone is focused on procedural facilitation with paperwork, while that of the Incheon zone and Tokyo zone provides more value-added services, such as consulting services on investment opportunities, business partners, office renting and so on. To address the language gap that foreign investors often find challenging about Japan, the Tokyo zone's one-stop business establishment center also provides interpretation and translation services to foreign nationals.

In terms of customs administration, the Shanghai zone has set up a single window system for international trade, encompassing supervision from 25 government bodies and integrating multiple

functions. It is a major part of the effort to facilitate trade though simplification and digitalization of custom formality. South Korea and Japan are two pioneers in the use of the single window customs system. Korea boasts the world's first 100 percent electronic clearance system and provides the fastest customs services; its UNI-PASS system integrates 40 government agencies and connects 430 thousand trading and logistics companies. Japan's NACCS system has also achieved full automation and a single-window function that brings importers/exporters, multiple regulators, logistics companies and other relevant agents together. Both the Korean and Japanese system have been exported to less developed countries to help modernize their customs services and promote their trade performance.

Institutional arrangements

All three countries have taken a state-led institutional approach towards their zone programs in that the government controls the zone authority and has a strong hand in zone regulation. East Asian states are known for their high delivery capacity, as evidenced by their successful state-run zone programs in the past. The government has played a critical role in zone development by providing solid infrastructures, good business environment and institutional support for investors. However, an overreaching government can also lead to problems like inefficiency and poor services; the private sector is therefore invited to the process to contribute their expertise and voice their needs. Zone authorities in South Korea and Japan have enabled this public-private dialogue. For example, a number of ten corporate executives and scholars were appointed as members of Korea's Free Economic Zone Committee that oversees the establishment and operation of all FEZs in the country; Abe's advisory council for NSSZs also appointed civilian members from the cooperate sector and the academic circle. In comparison, the Chinese government has full control over its free trade zones, and the private sector has no representation whatsoever in the zone authority.

Another fact that differentiates China from South Korea and Japan is that its zone authority is not anchored to a committee or board at the central level. The Incheon zone authority is governed by a Free Economic Zone Committee headed by the trade minister at the national level, while the Tokyo zone authority is supervised by an advisory council established within the Cabinet Office and led by the Prime Minister himself. This central-local dual institutional system can on the one hand ensure coordinated development of zones around the country and guarantee strong mandate for the zone authority's board, and on the other hand delegate power to local zone regulators involved in the daily administration of the zone. This institutional arrangement is adopted in countries where local autonomy is limited. In this case, local proposals have to be approved by the central board, and

sometimes invested interests at the top level can effectively oppose local reform, and therefore coordination and negotiation between the local authority and central board is the key.

In contrast, China has no central committee or board that governs FTZs around the country; instead, the Shanghai zone is supervised by a work group at the municipal level. The lack of a top-level mechanism that takes overall control of the zone program can result in uneven development of zones or even vicious competition across regions, and policy advisors in China propose the promulgation of a basic law for FTZs that delegates institutionally founded mandate to a regulatory committee or board at the central level.

5. Findings

5.1 Differences and similarities

5.1.1 Differences

China has no basic law for its zone program

What significantly differentiates China's FTZ program from the zone programs from South Korea and Japan is that China does not have an overarching statutory law, while drafting and passing such a law is one of the first things Korea and Japan did before any zone was established in the country. A basic law approved by the country's highest-level legislature sets the tone for the zone program by specifying the zone's purpose, definition and rules over its many ramifications, including designation, development, operation, management and even evaluation. Based on this law, a series of central government orders, local plans for specific zones, regulations issued by ministries as well as rules for implementation are rolled out, and together they form the legal framework for the zone program. Contrary to the practice of Korea and Japan, which is also internationally widely accepted, China chose to go ahead and set up zones without a basic law.

China has always been cautious with opening up its market to the outside world. Rather than launching a nationwide FTZ program that could put political legitimacy at stake, China chose to first try it out in Shanghai first, following the Party tradition of "crossing the river by feeling the stones" to keep risks in check. The legal framework in China is based on delegated legislation at the local level. Such a model may have played to the strength of local conditions, but as more zones were approved around the country following the Shanghai zone's good start, potential problems of not

having a basic law becomes clearer. Scholars therefore argue for the imperativeness of promulgating a basic law under the current circumstances.

The different legal framework also leads to differences in a few other zone features. Particularly, the absence of a basic law could result in unbalanced development or even vicious competition among zones though a race to the bottom in incentive policies and a lack of mandate for a top-level institutional arrangement. In terms of incentives, South Korea's Special Act on FEZs stipulates the types of preferential taxes and financial support that could be issued by the state as well as local governments; China, on the other hand, has no such law to define the basic principles for incentives. Without oversight provided by a national law, local government bodies may race to roll out incentives to attract investors and talent, which will likely lead to abuse of preferential policies, against the central government's original intention to prevent base erosion and profit shifting caused by irrational tax concessions.

In terms of institutional arrangement, South Korea and Japan's basic law for the zone program both stipulate the establishment of a mechanism at the central level that takes overall control of the zone program and supervise local zone authorities. Specifically, the Incheon zone authority is governed by a Free Economic Zone Committee headed by the trade minister at the national level, while the Tokyo zone authority is supervised by an advisory council established within the Cabinet Office and led by the Prime Minister of the country. In Japan, every local project that entails selective adoption of national laws and regulations has to be approved by the advisory council in the Cabinet; once approved, it will lead to a revision of the basic law to provide legal ground for the project. In China's case, the zone authority is anchored to a work group at the municipal level rather than a central board mandated by a law. Without a central board to designate and coordinate zones around the country, the development of the zone program may lack a national and long-term vision. Local zone authorities may take the liberty of issuing rules and regulations that are in conflict with each other, which will confuse potential investors and result in uneven development of zones.

Shanghai zone still has room to improve in terms of deregulation and administration

Compared with the Incheon zone and Tokyo zone, the Shanghai FTZ still has much catching up to do in terms of deregulatory effort and administrative system, despite accelerated progress in recent years. OECD's FDI restrictiveness data shows that the Chinese market stayed relatively closed to foreign investors, while Japan is the most open among the three. By imposing approval procedures and equity ratios on foreign investments or completely banning their entry into certain industries, China's trade and investment policies have long favored domestic companies, particularly state-owned enterprises, over foreign investors. Aware of the importance of foreign investment for Chinese

industries and pressured by major economic partners like the US and EU for reciprocity in market access, China's new leadership pledged a new round of opening up, emphasizing fair treatment to business of all ownership structures. The Shanghai FTZ is taken as a test ground for such regulatory reforms, and the biggest policy move in this regard is the launch of a "negative list + pre-establishment national treatment" scheme. In comparison, South Korea and Japan have long used the negative list approach in their trade agreements and in defining market access for foreign investors, and their current negative lists are much shorter than China's.

In terms of administrative system, the three zones all have set up a one-stop service platform to facilitate business entry in the zone. The one-stop service in the Shanghai zone, however, does not offer as many value-added services to potential investors as the Incheon zone and Tokyo zone. Investors planning to enter the Shanghai zone may find it easier and faster to submit paperwork and pick up licenses than in other parts of China, but they are not provided with consultation over renting an office, finding business partners, integrating with local communities and so on, not to mention free translation and interpretation services offered in the Tokyo zone. In addition to a less capable one-stop service platform, the Shanghai zone's single window system for custom clearance also lags behind that in Korea and Japan. The Shanghai FTZ is the first place in the country to try out the single window system, which has greatly increased clearance efficiency and lowered costs for enterprises, but it still needs to integrate more administrative bodies to its system, offer more functions, and increase its rate of automation and digitalization to be comparable with the internationally leading systems in Korea and Japan.

Incheon zone started from scratch, leading to differences in infrastructure and incentive package

The Incheon zone is different from the Shanghai and Tokyo zone in that it basically started from scratch on reclaimed wetland from the Yellow Sea, while the other two zones are built upon former zones and have included well-developed urban areas of the country's biggest metropolis. This contrast has led to different features in infrastructure and also incentive packages.

After the Incheon FEZ was established in 2003, a public-private effort was launched to build this area into a business hub in Northeast Asia, with visions like "green and ubiquitous city" and "beyond Hong Kong". After more than a decade of development, many infrastructure and real estate projects are still under construction in the zone, and part of it still looks half-built, even the fully-built area is falling short of its demographic target and foreign investment goal, despite Songdo City's reputation as a model of new-generation smart city. By contrast, the Tokyo zone boasts the most sophisticated urban infrastructure offered by the country's capital city, as Tokyo's nine most commercially vibrant

wards are included in the zone. Likewise, the fact that the Shanghai FTZ is built upon former zones gives it a good lead in infrastructure development. With the expansion to more developed district of the city, such as the Lujiazui district known as the "Wall Street of China", the Shanghai zone's infrastructure quality is taken up a notch.

As the development of the Incheon zone relies heavily on private investments and public-private partnership, the zone authority has roll out a competitive package of tax break and financial support to attract developers and investors. Take corporate tax as an example. In the Incheon zone, if an investment exceeds US$30 million in manufacturing or over US$2 million in R&D, it will be exempt from paying corporate tax and income tax for five years and only pays half of the rate for the following two years. In contrast, the much-expected 15 percent corporate income tax is not applied in the Shanghai zone due to concerns over base erosion and profit shifting; the government believes a sophisticated zone like this should not rely on preferential policies to attract investors but on good business climate and administrative services. In Japan's case, cutting the country's notoriously high corporate tax has been a consistent endeavor of the Abe administration; after the Tokyo zone was established, new effort in this regard have effectively reduced corporate tax to around 25 percent in the zone, but still dwarfed by what the Incheon zone can offer. In addition to relatively forceful tax breaks, the Incheon zone also offers big concessions in renting land and all sorts of subsidies, hoping that such incentives can attract enough developers and investors to build the zone up.

5.1.2 Similarities

Comparable locational strength

A successful zone is by no means a standalone project but can benefit enormously from its locational advantages and regional strength. When examined from this perspective, the three zones are very much on par with each other, as they all enjoy multimodal connectivity, close proximity to urban center, a high level of industrial agglomeration and strong human capital, thanks to their location in (or near to) the country's most developed metropolis and most vibrant regional economy.

The Shanghai zone and Tokyo zone are located in two internationally competitive cities, one is China's financial capital and reform bridgehead, and the other is Japan's political and business center. Incheon might not be a mega city like Shanghai and Tokyo, but it borders capital Seoul and serves as a gateway to the capital area. The three zones can all benefit from the three cities' transport and logistic hub status – they are home to the country's largest ports and busiest airports which connect them to major trade partners, and they have well-developed railway, highway and waterway networks that connect them conveniently with other cities in the region. The zones can also take advantage of the sophisticated urban functions the cities can offer. The zones' proximity to or inclusion of the

city's sophisticated urban center can allow easier access to capital, skilled labor, professional services and institutional support. In terms of human resources, despite poor performance in almost all educational indicators at the national level, Shanghai's world-leading basic education quality and forceful talent attraction policies could help shore up the city's human capital to a level comparable to Tokyo and Seoul, providing needed skilled labor and professional talent to the zone.

At the regional level, the three zones can all benefit from the country's strongest regional economy – the Yangtze River Economic Region for Shanghai FTZ, the Seoul Capital Area for the Incheon zone, and the Greater Tokyo Area in the case of the Tokyo zone. The three regional economies all have achieved a high level of integration and industrial agglomeration. The Yangtze River region hosts a large number of industrial parks and development zones that have fostered clusters in finance, electronics, automobiles, home appliances and logistics; the Seoul Capital Area has the country's highest concentration of high-tech enterprises, educated workforces, headquarters of Korean global conglomerates as well as SMEs; the Greater Tokyo Area has the highest population concentration and the wealthiest consumers in Japan and is home to a large number of SMEs and research institutions. These regions can provide a local supply chain to zone companies with their solid industrial foundation and cluster economies; they also have great market potential, riding on strong consumer demand; and they offer a pool of potential business partners and highly skilled professionals.

State-led approach

The special zone programs are another demonstration of East Asian states' strong delivery capacity. The state has played a critical role in all three countries in terms of strategic positioning and institutional support for their zone programs.

The three zone programs have all been integrated into the country's national strategy. In China, the FTZ program is the Party's flagship venture to facilitate the country's transition to a technology-intensive, consumption-driven and opened-up economy; South Korea's FEZs were set up under the goal to make South Korea a "Business Hub for Northeast Asia", and its FEZ law stipulates that a master plan should be developed every five years to ensure the systematic development of zones; Japan's NSSZ program is a part of the "Japan Revitalization Strategy", or the third arrow of Abenomics on top of monetary and fiscal stimulus, which is to stimulate growth through structural reforms. Including zone programs into national development strategies can bring out the more dynamic impact of zones on the national economy; it can also secure significant resources and political commitment from the top leadership to ensure the zones' success.

All three countries have taken a state-led institutional approach towards their zone programs in that the government controls the zone authority and therefore has a strong hand in zone operation. In China, the government takes full control of the Shanghai FTZ, with government officials occupying all seats of zone authority; in South Korea and Japan, a public-private dialogue is introduced to the institutional system. People from the corporate sector and academic circle are designed as members of zone authorities, where they can play a part in zone management by voicing their needs and contributing their expertise. The participation of the private sector in zone authorities is widely regarded as a better institutional model as it can to some extent balance political interests. But still, the state plays a dominating role both at the strategic level and in the zone's daily operation, as the private sector only accounts for a small proportion of zone authority members.

Emphasizing technology, value-added services and cluster formation

Despite the fact that Japan tried out special zones much later than China and South Korea, their latest zone programs are similar in that they have all adopted the GVC and cluster approach. As global value chains are becoming more knowledge-intensive and service-oriented over the years, the three trading powers all aim to strengthen their international competitiveness in next-generation technologies, advanced manufacturing and modern services by fostering innovative clusters through zone programs. This converge of zone approaches can be explained by the three countries' converging comparative advantages and narrowing development gap; it also puts their zone programs at more direct competition with each other.

Particularly, the incentive packages of the three zones under study all have a strong focus on advanced technologies and value-added services. In the Shanghai FTZ, preferential tax policies are offered to financial leasing and offshore financial business, and financial support in the form of discount loans or subsidies are inclined towards start-ups, innovation projects, R&D activities and talent recruitment. In Incheon, government funding is provided to the development of medical, educational and research facilities in the zone, and investments in R&D and advanced technology industries are entitled to better concessions than investments in manufacturing. In the Tokyo zone, tax incentives are targeted at companies investing in the medical sector or other advanced technologies, and subsidy schemes are introduced to SMEs and startups in R&D and high tech, to Fintech companies, and to foreign investors in robotics, new energy, advanced materials, medicine and electronics and machinery.

As a result, facilities in the zones take on similar features. The Shanghai zone now highlights clusters of financial intermediation in Lujiazui and high-tech companies in Zhangjiang; the Incheon zone saw the formation of an aviation industry cluster, a 'Robot Land', a medical science complex and high-

tech parks; and the Tokyo zone have also fostered clusters for healthcare robotics, biomedicine, automatic driving and other high technologies.

5.2 Best practices

If a multinational enterprise is to choose a location for its Asian headquarter out of the three zones (other attractive options like Hong Kong and Singapore are not taken into consideration here), which one would it be? When only zone-specific factors are considered, the Incheon zone might hold more appeal to investors than the Shanghai zone and Tokyo zone.

First of all, the Incheon zone offers the most competitive incentive package of the three zones in terms of corporate taxes, land use and government funding; the Shanghai zone, in comparison, barely offers more tax breaks than what's offered outside of the zone, and the Tokyo zone still maintain high corporate tax rates despite efforts to bring it down.

Second, the Incheon zone has less restrictions on market access for foreign investors than the Shanghai zone. Although Shanghai launched the most forceful reform in this regard, it started from a much worse position (China's ranking in OECD's FDI restrictiveness index lags far behind Korea and Japan), and the efficacy of such deregulatory measures could be weakened by poor implementation. The Tokyo zone promised unprecedented deregulation to shake up vested interests and vitalize the market, but the trickle of deregulatory measures in reality speaks to the difficulties of revamp the old system, and the long-protected sectors like agriculture and energy remain very much closed to foreign investors. Moreover, Incheon's effort to relax labor arrangements for foreign employers is much stronger than Tokyo's, as no substantial deregulatory measures are introduced in the Tokyo zone due to strong opposition at the ministerial level.

Third, Incheon ranks much better (5th place of 190 countries surveyed) than Shanghai and Tokyo in the World Bank's "ease to do business" index, while the other two's performance in administrative efficiency remains a complaint of investors. It only takes two procedures and four days to register a business in Incheon but takes eleven days in Tokyo. The three zones all have set up one-stop service platform for business entry, but Incheon and Tokyo offers more value-added services than Shanghai.

In terms of trade facilitation, the three countries as the world's major exporting powers all strive for leading customs services. South Korean started to automatize and digitalize the clearance process quite early, and now it boasts the world's first 100 percent electronic clearance system with powerful single-window function. Japan also excels in customs services, while China still has much catching-up to do.

Fourth, South Korea has a relatively long history of successful zone programs, and one good practice taken from its past experiences is a solid legal and institutional system. The country has an overarching statutory law that sets the basic rules for the zone program. Based on the law, a committee is set up at the national level to supervise local zone authorities. To enable public-private dialogue, ten non-public professionals from the corporate sector and academic circle are designated as members, accounting for almost half of the committee lineup. These are widely recognized good zone practices based on observation of zone experiences in many countries. China, on the other hand, chose a different legal and institutional framework due to its unique political economy, but scholars argue that it is now time to enact a basic law for the FTZ program and anchor its zone authorities to a central board with mandate delegated by the law.

The Shanghai zone may seem less desirable than the Incheon zone in every aspect mentioned above. But for many international companies, the Shanghai zone could beat the strengths of the other two zones with one locational advantage alone – it is located in mainland China, which will give investors direct access to the largest consumer market as well as sophisticated supply chains in the region. According to a survey conducted by European Chamber in China on large multinational companies, proximity to clients and markets was rated by respondents as the most important criterion for locating their Asia-Pacific headquarter. Moreover, despite Shanghai's poorer practices in the above-mentioned aspects, one can hardly deny its potential in catching up. After all, reform measures introduced in the Shanghai zone are quite progressive if one considers where they came from. The government's strong delivery capacity also guarantees improvement in areas it deems necessary. For example, China's "doing business" ranking improved from the 78th place to the current 46th place in one year only, and new practices exercised in the country's FTZs have contributed greatly to this progress. Market access is trickier as it concerns interests of state-owned companies and domestic industries; real progress in this regard therefore could be below expectation.

To sum it up, the Incheon zone and the Tokyo zone may have better practices than the Shanghai zone when examined as standalone projects, but the appeal of Shanghai zone can be shored up by the simple fact that it is located in mainland China with direct access to China's large domestic market. The good practices of the Incheon zone are built upon the country's past experience with special zone programs and regulatory improvements achieved by continuous reform effort over the years, particularly after the Asian financial Crisis. The Tokyo zone is also bolstered by a sound national foundation, but it's zone measures regarding incentives, deregulation and administration are far from Abe's vision of "breaking through the tough bedrock of regulations". The Shanghai zone may still lag behind in many aspects, but it rolled out most forceful reform measures of the three, and its potential of catching up is not to be underestimated.

5.3 A Northeast Asian type?

The analysis above does highlights some shared features among the three countries' latest zone programs that can differentiate them from other regions of the world where there is also a concentration of special zones. Most notably, their state-led institutional nature[8] tells them apart from Latin America where only seven percent of them are exclusively managed by a public agency, and Africa where states have limited capacity and almost all zones there rely on a public-private partnership structure, according to World Bank (2017) data. Special zones in most European countries, on the other hand, are subject to their unique institutional arrangements in that they have to comply with EU rules on competition and state aid, as the EU forbids incentives that could distort market competition; in this context, the competition authority of individual countries will review and approve every investment deal in the zones when it receives state aid (OECD, 2017).

On a different note, the three countries' emphasis on technology and value-added services with their latest zone programs also distinguishes them from less economically robust countries in Asia. According to an ADB report (2015), many zones in Southeast and South Asian countries are still much limited to generating direct effects like exports and employment, while their policy effort to shift towards higher value-added activities needs to be strengthened. For countries characterized by low incomes, insufficient infrastructure and weak institutions, such as Bangladesh, Sri Lanka, Cambodia, Laos and Myanmar, their zones are still benefitting from companies relocating from China, Korea and other better-off economies in the region, and it will take a while before their zones can reach a level comparable to that of the three countries under study. Special zones in Central Asian countries may have taken a heterodox approach to help transit their natural resources-reliant economy to a more diversified market, but their current economic conditions, including weak infrastructure, poor connectivity, lack of skilled labor and political corruption, have greatly constrained zone performance, particularly those branded as technology-intensive zones and innovation zones (ADB, 2015).

Different traits can also be identified between the zones under study and that of former Asian Tiger Economies (Singapore, Hong Kong and Taiwan) despite their similar development path. Compared with Singapore and Hong Kong where the whole city is basically functioning as a free trade port, the three zones lag behind in terms of openness, partly because the state needs to consider the complexities of a much bigger hinterland. Take Singapore as an example, despite similar traits like geostrategic location with top-notch port and airport facilities, high-quality infrastructure and leading

[8] The private sector is invited to zone authority in the case of the Incheon zone and the Tokyo zone, but it plays only an advisory role. The state still takes overall control and exercises strong delivery capacity.

customs system, Singapore is most different in that it offers one of the world's least restrictive investment regime and a large variety of tax incentives to the extent of being labelled "the world's worst tax havens" (Boon, 2016); it also adopts a special institutional arrangement called the "Temasek model", under which zones are run by government-linked companies that can align commercial objectives with public interests (Chen, 2016). Taiwan may be the first economy in the region to set up export processing zones back in the 1960s, but its more recent effort to upgrade existing zones from logistics hubs focused on trade in goods to more service-oriented economic zones have met with political resistance. After export processing zones lost relevance, the state transformed them in the early 2000s into free trade zones, in a bid to build Taiwan into a logistics hub in the region (Wang & Kuo, 2012); strong competition from Chinese mainland ports pushed the government to seek change again in 2013, but draft laws on launching free economic pilot zones that features value-added professional services did not make it through the legislature due to political concerns over influence of a strong mainland China (Hsu, 2019).

While shared features, including an institutional system led by a capable state and emphasis on value-added activities and dynamic effect, can differentiate the zone programs under study from those in Africa, Latin America, South Asia and Southeast Asia, it is still not enough to define them as a Northeast Asian type of zones. More similarities can be identified with free trade regimes like Singapore and Hong Kong, as they provide good examples of zone development that other countries look up to. For example, China is already seeking to transform the Shanghai FTZ into a free trade port, emulating the practices of Hong Kong and Singapore. Moreover, a comparison of the three zones also found disparities among themselves that challenges the idea of a Northeast Asian type of zones. For instance, the zones under studies show different practices in terms of legislative framework, tax regime and institutional arrangements (see section 5.1.1). Still, the three zones have more essential similarities than differences, which makes it meaningful to continue observing their developments and comparing their practices. It might be premature to define the three countries' latest SEZ pursuit as a Northeast Asian type of special zones, but it is definitely a valid question to ask, considering the impact of SEZs and the economic potential of this region. This inquiry may become even more relevant as they compete more directly with each other on the one hand and cooperate more closely on the other.

6. Conclusion

This paper provides a systemic comparative analysis of the latest major SEZ programs in China, South Korea and Japan, focusing particularly on the most representative zone of each country and examining their national, regional as well as zone-specific factors. Clear disparities are found among the three countries: China has no basic law for its FTZ program, which also leads to differences in institutional arrangement in that its zone authority is not anchored to a central board with mandate from the law; the Shanghai zone still has room to improve in terms of deregulation and administration; and the Incheon zone started from scratch, while the other two were built upon developed urban infrastructure and existing zones.

Despite these differences, the three countries share more important similarities: all of them boast great locational advantages and can benefit from the country's most vibrant regional economy; the state has played a critical role in all three zone programs by integrating zone programs with national development strategy and controlling zone authorities; they all have adopted a global value chain and cluster approach, emphasizing new technologies, value-added services and cluster formation. Particularly, the three countries' shared feature of state-led institutional system and emphasis on value-added activities can differentiate their zones from those in Africa, Latin America, South and Southeast Asia. However, they have more in common with free trade regimes like Singapore and Hong Kong, as they aspire to emulate the good practices of the latter. Continued observation of future developments is needed to tell if a Northeast Asia type of special economic zones can be identified.

As to which zone has the best practices, the Incheon zone stands out for its competitive incentive package, relatively relaxed market access, high administrative efficiency and solid legal and institutional system. However, the Shanghai zone could win investors over without much effort, given the fact that it is a major gateway to China's huge domestic market and sophisticated supply chains.

This study is helpful in that it comes up with a framework of zone performance determinants and looks into the new generation of special zones, which can help fill up the gap in SEZ literature and provide empirics to future SEZ theorizing; its findings are also of practical value to investors as well as zone planners. This paper also has limitations. Most notably, it relies heavily on in-depth qualitative case studies in mapping stakeholders, dissecting zone features and explaining the dynamics; such comparative analysis is especially useful in addressing research questions regarding similarities, differences and which is the best. However, when it comes the third research question of whether a Northeast Asian type of zones can be identified, exploratory case study is quite limited in

its ability to arrive at a solid conclusion. In this case, a larger number of zones in the region should be sampled for a quantitative analysis to answer this question.

For future studies, it is meaningful to have a systematic assessment on the direct/indirect impacts of the zones. Such an assessment can gain insights into the efficacy of special zones in generating economic growth as well as social benefits. A step further is to put the zone determinant framework to a test, identifying which factors are correlated with economic gains and to what extent. For instance, an econometric analysis can be designed where such factors can be proxied by indicators and tested against the dependent variable of FDI growth in the zone. Data collection might prove difficult in this case, and the lack of consistent and comprehensive data might reduce the analysis to simple correlation. Still, it is meaningful to look into this question and see if new empirics can lead to new findings regarding zone performance determinants.

While broad trade and investment liberalization has called into question the efficacy of SEZs, current developments in China, South Korea and Japan highlight SEZs' relevance in overcoming political resistance and vested interests to foster value-added clusters through deregulation. As an important policy instrument of a capable state, SEZs will continue to play an important role in catalyzing economic growth as well as institutional reform in these countries. In fact, China has rolled out detailed plans to build its Hainan Island into a leading free trade port by the year 2025, focusing on tourism, modern services and high-tech industries. As such, future observation and analysis of SEZ programs in this region will most likely remain prevalent and valued.

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Appendix A: List of abbreviations

ADB	Asian Development Bank
AQSIQ	General Administration of Quality Supervision, Inspection and Quarantine of China
CASS	Chinese Academy of Social Sciences
ETDZ	Economic and Technological Development Zones
FDI	Foreign Direct Investment
FEZ	Free Economic Zone
FIAS	Foreign Investment Advisory Service
FTA	Free Trade Account
FTA	Free Trade Agreements
FTZ	Free Trade Zone
GAC	General Administration of Customs of China
GDP	Gross domestic product
GHG	greenhouse gas
GST	Goods and Services tax
GVC	Global Value Chain
ICT	Information and communications technology
IFEZ	Incheon Free Economic Zone
IRAS	Inland Revenue Authority of Singapore
JETRO	Japan External Trade Organization
KRW	South Korean won
M&A	mergers and acquisition
MICE	meetings, incentives, conferences and exhibitions
MNCs	Multinational Companies
MPA	Maritime and Port Authority of Singapore
NACCS	Nippon Automated Cargo and port Consolidated system
NDRC	National Development and Reform Commission
NSSZ	National Strategic Special Zone
OECD	Organization for Economic Co-operation and Development
OSS	One Stop Shop
PBOC	People's Bank of China
PISA	Program for International Student Assessment

RMB	Renminbi
RMB	renminbi
SEZs	Special Economic Zones
SME	small and medium enterprises
SOE	State-owned Enterprise
SPFTZ	Shanghai (Pilot) Free Trade Zone
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
UN-HABITAT	United Nations Human Settlements Programme
VAT	value added tax
WEF	World Economic Forum
WCO	World Customs Organization
WTO	World Trade Organization

Appendix B: List of tables and figures

Appendix C: Abstract

Abstract

This paper focuses on the latest special economic zone efforts made by three major Northeast Asian countries, namely China's "Free Trade Zone" program, South Korea's "Free Economic Zone" program, and Japan's "National Strategic Special Zone" program. An analytical framework of zone performance determinants is developed by drawing criteria from SEZ theories and empirical literature, based on which comparative case studies on three representative zones are conducted to analyze in-depth their similarities, differences, best practices and to see if shared patterns can be identified. The three countries' shared feature of state-led zone authority and emphasis on value-added activities can differentiate their zones from those in Africa, Latin America, South and Southeast Asia, but clear disparities among themselves also challenge the idea of Northeast Asian type. Particularly, China is found to have no basic law for its FTZs, which leads to different institutional arrangements from the other two countries, and the Shanghai zone has catching-up to do in terms of deregulation and administration. The Incheon zone stands out for its competitive incentive package, relatively relaxed market access, high administrative efficiency and solid legal and institutional system, but the Shanghai zone could win investors over with the simple fact that it is a major gateway to China's huge domestic market and sophisticated supply chains. This comparative analysis is significant in that it may help fill up remaining gaps in SEZ literature and provides empirics for future SEZ-related theorizing, and the findings are of practical value to zone developers, investors and other relevant stakeholders. Future studies can assess the economic impact of the zones and test the performance determinants against it to identify which factors are strongly correlated with economic gains.

Zusammenfassung

Diese Arbeit analysiert und vergleicht die aktuellen Bestrebungen und Entwicklungen in den Sonderwirtschaftszonen (SWZ) Nordostasiens am Beispiel der Freihandelszone Shanghai (China), der Strategischen Sonderzone Tokio (Japan) und der Freiwirtschaftszone Incheon (Südkorea). Es wird ein Analyserahmen zur Bewertung der Leistungsfähigkeit von SWZs entwickelt, dessen Kriterien aus einschlägigen SWZ-Theorien und entsprechenden empirischen Forschungsarbeiten abgeleitet wurden. Anschließend wird dieser Analyserahmen anhand der drei genannten Vergleichsfälle zur Anwendung gebracht. Dabei sollen Ähnlichkeiten, Unterschiede und Best Practices der SWZs herausgearbeitet werden. Ziel der Analyse ist auch es herauszufinden, ob und inwiefern die drei SWZs nach ähnlichen Prinzipien funktionieren und ob ein „Nordostasiatisches Modell" identifizierbar ist. Gemeinsamkeiten zeigten sich im Bereich der Wertschöpfungsaktivitäten und der Staatliche Steuerung. In diesen Charakteristika heben sich die drei SWZs von anderen SWZs in Afrika, Lateinamerika, Süd- und Südostasien ab. Deutliche Unterschiede untereinander stellen jedoch auch die Idee eines „Nordostasiatischen Modells" in Frage. Die Analyse ergab, dass China im Gegensatz zu Japan und Südkorea über kein spezielles Grundgesetz für seine SWZs verfügt, wodurch sich das chinesische Modell in seinen institutionellen Strukturen deutlich von den anderen beiden Ländern unterscheidet. Außerdem zeigte sich, dass die Freihandelszone Shanghai im Vergleich zu den anderen beiden Fallbeispielen Nachholbedarf im Bereich der Deregulierung und Verwaltung hat. Die Freiwirtschaftszone Incheon zeichnet sich besonders durch wettbewerbliche Anreize, einen leichten Marktzugang, eine hohe Verwaltungseffizienz, starke Institutionen und ein stabiles Rechtssystem aus. Shanghai hingegen kann vor allem damit punkten, sich gegenüber ausländischen Investoren als Türöffner zum großen chinesischen Markt und seinen Lieferketten positionieren zu können. Die Signifikanz dieser Analyse besteht darin, dass sie dazu beiträgt noch bestehende Lücken in der SWZ Literatur zu füllen und bietet eine empirische Grundlage für weitere SWZ-bezogene Theoriebildungen. Außerdem sind die Ergebnisse von praktischem Nutzen für die Architekten zukünftiger SWZs, Investoren und weitere relevante Stakeholder. Weitergehende Forschungsaktivitäten könnten sich mit dem ökonomischen Einfluss der drei Zonen beschäftigen.