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# TRANSNATIONAL CORPORATIONS

INVESTMENT AND DEVELOPMENT

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UNITED NATIONS



Volume 26 • 2019 • Number 2

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INVESTMENT AND DEVELOPMENT

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Special Issue on  
Special Economic Zones



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*Transnational Corporations*<sup>1</sup> is a longstanding policy-oriented refereed research journal on issues related to investment, multinational enterprises and development. It is an official journal of the United Nations, managed by the United Nations Conference on Trade and Development (UNCTAD). As such it has a global reach, a strong development policy imprint, and high potential for impact beyond the scholarly community.

### **Objectives and central terrain**

The journal aims to advance academically rigorous research to inform policy dialogue among and across the business, civil society and policymaking communities. Its central research question – feeding into policymaking at subnational, national and international levels – is how to make international investment and multinational enterprises contribute to sustainable development. It invites contributions that provide state-of-the-art knowledge and understanding of the activities conducted by, and the impact of multinational enterprises and other international investors, considering economic, legal, institutional, social, environmental or cultural aspects. Only contributions that draw clear policy conclusions from the research findings will be considered.

### **Grand challenges and the need for multiple lenses**

The scale and complexities of the “grand challenges” faced by the international community, such as climate change, poverty, inequality, food security, health crises, and migration – as embodied in the United Nations’ Sustainable Development Goals (SDGs) – are enormous. These challenges, combined with the impact of disruptive technologies on business, rapidly evolving trends in international production and global value chains, new emerging-market players and new types of investors and investment, make it imperative that policymakers tap a wide range of research fields. Therefore, the journal welcomes submissions from a variety of disciplines, including international business, innovation, development studies, international law, economics, political science, international finance, political economy and economic geography. However, submissions should be accessible across disciplines (as a non-specialized journal idiosyncratic research should be avoided); interdisciplinary work is especially welcomed. The journal embraces both quantitative and qualitative research methods, and multiple levels of analyses at macro, industry, firm or individual/group level.

### **Inclusive: multiple contributors, types of contributions and angles**

*Transnational Corporations* aims to provide a bridge between academia and the policymaking community. It publishes academically rigorous, research-underpinned

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<sup>1</sup> Previously: The CTC Reporter. In the past, the Programme on Transnational Corporations was carried out by the United Nations Centre on Transnational Corporations (1975–1992) and by the Transnational Corporations and Management Division of the United Nations Department of Economic and Social Development (1992–1993).

and impactful contributions for evidence-based policymaking, including lessons learned from experiences in different societies and economies, both in developed and developing-country contexts. It welcomes contributions from the academic community, policymakers, research institutes, international organizations, and others. Contributions to the advancement and revision of theories, frameworks and methods are welcomed as long as they are relevant for shedding new light on the investigation of investment for development, such as advancing UNCTAD's *Investment Policy Framework for Sustainable Development*.

The journal publishes original research articles, perspective papers, state-of-the art review articles, point-counterpoint essays, research notes and book reviews. All papers are double blind reviewed and, in line with the aims and mission of the journal, each paper is reviewed by academic experts and experts from the policymaking community to ensure high-quality impactful publications that are both academically rigorous and policy relevant. In addition, the journal features synopses of major UN reports on investment, and periodic reviews of upcoming investment-related issues of interest to the policy and research community.

### **Unique benefits for authors: direct impact on policymaking processes**

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# Using special economic zones to facilitate development: policy implications

Rajneesh Narula and James X. Zhan\*

Volume 26 number 2 of the *Transnational Corporations* journal is a special issue dedicated to special economic zones (SEZs) and their potential as vehicles for development. The issue grew out of research and background papers that fed into UNCTAD's *World Investment Report 2019*, the thematic focus of which was SEZs. In compiling this issue, we sought to contextualize the emergence of SEZs, their evolution, and the associated policy trajectories that underpin them. This introductory paper amalgamates observations from the broader academic literature, as well as the findings of the *World Investment Report 2019* and its associated background papers. A common theme is that a well-designed zone will evolve with the changing comparative advantages and development level of the underlying economy, in what is described as the "SEZ development ladder". As the locational advantages change, the emphasis and the objectives of the SEZ must also change. Reliance on "generic" locational advantages must necessarily diminish, and greater emphasis needs to be placed on developing "specialized" locational advantages. Another key finding is that the benefits of an SEZ must intentionally "leak" beyond the perimeter of the zone. The pervasiveness of the direct, indirect, and induced extra-SEZ effects beyond the geographically bounded space of the SEZ determines its success or failure. Scope remains for future research on SEZs, focusing on their sustainability, the impact of the digital economy and industry 4.0, and the involvement of new financing partners for SEZ development.

**Keywords:** Special economic zones, locational advantages, SEZ development ladder, spatial inequalities, industrial policy, FDI, linkages

## 1. Introduction

The concept of special economic zones (SEZs) in their current form dates back to the 1950s, when they were popularly referred to as export processing zones (EPZs), and later as free zones. Despite a proliferation of terminologies (see Bost, *this issue*,

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for a summary and UNCTAD (2019), pp. 133-137), the principle of the SEZ remains essentially unchanged. An SEZ is a geographically defined and delimited space that has a series of location-specific advantages. Their characteristics are distinct from those available to economic actors located in the surrounding national or sub-national economy in which the SEZ is established. To varying degrees the difference in location-specific characteristics within the SEZ's perimeter and outside it are of three types. First, they offer relief from customs duties and tax. Second, they offer superior infrastructure, and/or privileged access to scarce inputs. Third, they have historically offered reduced regulatory requirements, along with improved facilitation of compliance with these regulations through streamlined administrative procedures. There is considerable diversity in the quality of the locational characteristics of SEZs. Indeed, it is not uncommon for different forms of SEZs to coexist within the same country, each displaying a varying mix of incentive schemes, services and industries, and, in some instances, specific home countries or focus on a single multinational enterprise (MNE) (Frick et al., 2019).

SEZs (and their antecedents, the EPZ and free zones) have been a useful tool for developing countries unable to upgrade infrastructure, human capital and institutional frameworks across the entire economy and constrained by economic considerations and conflicting priorities. By upgrading these resources and capabilities within a confined area, policymakers can overcome bottlenecks in resource availability and attenuate the cost of larger-scale upgrading across the entire country or sub-national region. Apart from the "planned-for" economic benefits expected from an SEZ, a successful SEZ sends an important signal that the country is "open for business", especially when it can provide first-world infrastructure and bureaucratic and administrative efficiency at globally competitive prices. Prior to the widespread economic liberalization of the 1990s, export processing zones were more modest in intention, emphasizing exports from an enclave within a larger economy that otherwise followed import-substituting, inward-looking policies (Aggarwal, 2012). Much of the popular understanding of SEZs focuses on examples from this period (such as Ireland, India, Malaysia, South Korea and Mauritius). Many early movers in SEZs were established during an era when MNEs had a fairly short supply of secure, reliable locations that were export oriented (Farole, 2011). Developing countries in today's global economy that seek to pursue an SEZ-driven approach to development are unlikely to see similar benefits as those countries that followed this approach prior to the 1980s.

One of the key observations in the early literature on EPZs was that the benefits of zones went beyond financial and economic effects, and that the indirect and longer-term benefits mattered more (Johansson and Nilsson, 1997). The consensus of policy advice by international organizations in relation to SEZs over the last two decades has been to pivot away from the pecuniary benefits, towards

taking a longer- term vision, as indeed UNCTAD (2019) does. SEZs are ideally a component for pursuing a MNE-assisted development strategy, or as a means to experiment with new policy interventions and industrial policy (Jeoung and Zeng, 2016; Aggarwal, *this issue*). A common theme between UNCTAD (2019) and several of the papers in this special issue is that a well-designed zone will evolve with the changing comparative advantages and development level of the underlying economy, in what is described as a the “SEZ development ladder” (UNCTAD, 2019: 141).

New SEZs look to examples from China and its neighbouring economies in Asia for inspiration, which are linked to, and integrated within global value chains (GVCs). The importance of the SEZ development ladder is critical to understanding their performance and evolution. Many of the successful early movers (such as China: see for instance, Meng and Zeng [*this issue*] and Chen [*this issue*]) developed SEZs as a complementary part of a broader development strategy<sup>1</sup>. There are, in brief, different SEZ types appropriate for each stage of development.

The principles of economic and functional upgrading utilizing SEZs are similar to the principles of an MNE-assisted development strategy, the primary deviation being that the SEZ represents a microcosm of the host country operating at its most efficient. Indeed, SEZs are a tool in a country’s policy arsenal to pursue an MNE-assisted development strategy, but still they are just a tool, and not a solution for the social and economic challenges faced by the economy as a whole.

Particularly where the host country has immediate and short-term political imperatives and lacks a longer-term development strategy (or the resources and capabilities to effectively pursue such a longer-term approach), SEZs are pursued for their most immediate (and visible) gains: providing employment and accruing capital flows. Nonetheless, by and large, the performance and impact of SEZs are increasingly measured by their capacity to be sustainable. Best practice today is increasingly cognisant of the importance of sustainability. Over the last decade, there is considerable pressure at the supranational, national and local levels to curb the negative impact of SEZs (and investment in general) on communities and the environment. Reputational risk factors prompt the private sector to adhere to ever-stricter environmental, social and corporate governance (ESG) standards (Zhan, 2018), and this is reflected in the growing interest in CSR activities by MNEs.

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<sup>1</sup> Chinese SEZs have evolved with the country’s economic upgrading. The experience of China may therefore have limited relevance to low-income economies that are peripherally integrated to the global economy, which is to say countries that have limited engagement with GVCs, and, owing to a variety of reasons, are poorly linked with the “core” global economies, such as the European Union (EU), United States and Japan (Benito and Narula, 2007).

## 2. MNE-assisted development and SEZs as a microcosm

The logic of pursuing limited locational upgrading within an SEZ relies on attracting MNEs with specific mandates that are concatenated to the development goals and the comparative advantage of the host country (more specifically, to the comparative advantage of the SEZ, since there may be differences between the characteristics on either side of the SEZ boundaries). The immediate net benefits of an SEZ, such as employment, capital flows and technology flows are often modest, and when considering the costs of infrastructure upgrading, foregone customs revenues, subsidies and incentives, etc., the net benefits may even be negative (Jayanthakumaran, 2003; Cirera and Lakshman, 2017; Alkon, 2018). However, SEZs can act as an important catalyst to kickstart larger and more pervasive benefits to the wider economy, although the degree to which they do so effectively requires careful planning and implementation (Farole and Moberg, 2017). It is through these mechanisms that longer-term benefits of SEZs (and MNE activity in general) accrue.

The focus of much of the SEZ/EPZ literature has been on economic development, rather than a more holistic approach to development, which concerns itself with social and societal outcomes and effects, with a particular objective to reduce inequalities. Indeed, according to the United Nations' 2019 Human Development Report, reducing inequality is a *sine qua non* to most of the other UN Sustainable Development Goals, or SDGs (Narula and Van der Straaten, 2019). As UNCTAD (2019) emphasizes, countries are increasingly paying attention to legislating ESG standards as part of investment policies in general, and SEZ establishment more specifically. MNEs are also inclined to greater engagement with ESG standards, especially where there are significant reputational costs to being socially irresponsible. However, there is considerable variation in the degree to which MNEs implement CSR policies (Shapiro et al., 2015). There is simply insufficient evidence to comment on the degree to which host countries are able to effectively legislate and enforce ESG standards, or the efficacy of firms' CSR activities. Therefore, in this paper – as throughout this special issue – the focus is first and foremost on the economic impact of SEZ activity.

Whether increased MNE activity through SEZs can contribute to economic development in the host economy depends on various mechanisms. The most significant of these are arguably the diffusion of know-how and its transfer to local firms and skills acquisition by local workers through local training and strong inter-firm relationships between local entrepreneurs and foreign-owned enterprises. It is this non-capital aspect in the form of knowledge transfer, local training and high-quality employment that matters when the presence of foreign affiliates is sought. However, ultimately, to have a lasting impact on economic development in the host economy, knowledge transfer must reach beyond the SEZ perimeter. If foreign

investment in an SEZ fails to create jobs more widely within the economy (and beyond the SEZ), enhance the competitiveness of local economic sectors and create business opportunities for local entrepreneurs outside the perimeter of the SEZ, it will contribute little to economic development.

The attraction of MNEs (through foreign direct investment – FDI – or other modes of engagement) has become a key component of development policy in most developing countries (Lall and Narula, 2004). MNEs are a mechanism to break the vicious circle of underdevelopment, which is characterized by low savings and investment ratios, and inefficient production methods and technologies (Narula, 2014). MNEs are able to provide not only financial resources but also technology, managerial know-how and linkages to GVCs (UNCTAD, 2013; Narula and Pineli, 2017 and 2019). Governments tend to view MNEs as being better equipped than domestic firms with the attributes that can improve productivity, notably in the form of proprietary knowledge (often described as ownership advantages). The presence of foreign MNEs is also expected to create spillovers of various kinds to domestic actors. Hence, attracting FDI is a means to accelerate economic growth while contributing to the transformation of the employment and production structures of the economy. This set of beliefs leads governments to actively engage with foreign investors to influence the volumes and composition of FDI and to maximize positive effects on net employment, skills transfer and capital flows.

MNEs can have a decisive influence on the development path of countries, although the effectiveness of an MNE-assisted development strategy depends on a variety of factors (Narula and Dunning, 2010). Net benefits depend not only on quantity, but also on the quality of FDI. Quality has to do with the MNE's investment motivations, the affiliates' mandate and autonomy, which in turn determine the potential for linkages and spillovers. These effects also depend on the capacity of domestic firms to absorb, internalize and upgrade their knowledge assets (Criscuolo and Narula, 2008). A sound SEZ policy must not be exclusively concerned with attracting capital investment but ought to prioritize the increased local embeddedness of the MNEs.

The key contribution of the MNEs is expected to be their influence on domestic firms. Indeed, aside from the direct and more visible impacts on employment and income generation, government often justify the bundle of subsidies they offer to attract FDI on the basis of the potential indirect benefits, such as the transfer of managerial know-how and production techniques to indigenous firms.

Spillovers imply a process of learning by the recipient firm, but not all domestic firms have the ability to "internalize" the spillovers generated by the presence of MNEs. In reality, capturing spillovers is costly (Narula and Driffield, 2012) and usually requires specialized workers, often in short supply in developing countries. Indeed, most studies about spillovers have included some proxy to domestic firms' absorptive

capacity<sup>2</sup> and the results suggest that this factor is relevant to both developed and developing countries. In general, firms with higher absorptive capacity are more likely to benefit from the presence of MNEs (Blalock and Simon, 2009; Narula and Marin, 2003; Castillo et al., 2014; Frick and Rodríguez-Pose, *this issue*). Therefore, policies aimed at improving the absorptive capacity of domestic firms are likely to increase the chances of positive FDI spillovers. These include not only investments in formal education and vocational training, but also incentives to engage in R&D, and the reduction of impediments to the free flow of knowledge, whether embodied in goods (such as imported capital goods) or otherwise.

Spillovers, however, are implicit in nature: An MNE-assisted development strategy relies greatly on the explicit effects associated with the establishment of linkages. The concept of linkages relies greatly on Hirschman's (1958) seminal contribution (as reinterpreted by Lall, 1978 and 1980) that framed linkages as direct relationships between MNEs and other economic agents in complementary activities that involve interactions that go beyond spot market transactions. Most markets for intermediate goods exhibit certain imperfections, and therefore firms engage in linkages that establish ongoing engagement between the parties concerned. Through linkages, the MNEs may (internationally or otherwise) provide technical, managerial and financial assistance to their suppliers, or their customers, and are a key pathway for "knowledge transfer". However, MNEs may also affect local suppliers and buyers through other channels. On the one hand, the increased demand enables domestic suppliers to benefit from scale and specialization economies, while MNEs' production in itself increases supply for downstream sectors, with the potential to reduce prices.

MNEs are not all equal. The potential for linkages creation and spillovers depends on the nature of the investing MNE and the MNE's motives for investment, although empirical studies often ignore this. A firm that internationalizes to sell more will behave very differently from a firm that internationalizes to reduce costs, and the development outcomes in the host economies will differ accordingly. However, the empirical evidence on the relationship between MNE motives and spillovers is limited (Driffield and Love, 2007; Morrissey, 2012). Domestic-oriented affiliates tend to create more linkages than export-oriented affiliates, since they are less dependent on low-cost inputs (in international terms) to be competitive. Indeed, MNE activity aimed at extracting natural resources has different development effects, from, say, market-seeking investments. FDI in countries with low levels of human capital (but with comparative advantages in natural resources) is likely to be concentrated in the extractive or natural resource-intensive sectors, and this

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<sup>2</sup> Absorptive capacity can be defined as "ability to internalise knowledge created by others and modifying it to fit their own specific applications, processes and routines" (Narula and Marin, 2003, p. 23).

shapes the development outcome. MNE activity in the extractive industry tends to develop in enclaves, thus limiting the scope for linkages between MNEs and the domestic economy (Narula, 2018).

At the end of the day, the impact of FDI varies across sectors and industries. A dollar of FDI can offer quite varying benefits, depending on the sector in which it has been invested. Indeed, the development outcomes are contingent on both the sectoral characteristics and the recipient location's locational advantages (Narula and Dunning, 2000 and 2010). More generally, we have known for years that all FDI is not equal, in terms of development value. As ECLAC (2014) notes, a US\$1 million investment on average creates only one job in extractive activities, while the same amount creates two jobs in natural-resource-intensive manufacturing, and labour-intensive manufacturing activities create seven jobs per US\$ 1 million invested.

### **3. Locational advantages, the SEZ development ladder and domestic actor participation**

Although the number of SEZs in developing countries has continued to increase, a large proportion of the associated new FDI has gone to that sub-group of developing countries referred to as "emerging", which are technologically more advanced, and have the "locational advantages" that make them more suited to integration within MNE supply chains and GVCs. Other, more peripheral developing economies seek to attract FDI suitable to their comparative advantage in labour-intensive and natural resource-intensive activities. Many of these countries engage in low-value, commodity-based activities and are often weakly linked to GVCs (Narula, 2018). Countries at different stages of development necessarily have specific locational characteristics that make them suitable for specific types of SEZs in what is described as the SEZ development ladder (UNCTAD, 2019: 141).

Locational advantages are a set of characteristics associated with a location and are in principle accessible and applicable to all firms equally that are physically or legally established in that physical space. Locational advantages can be said to be "public" because they are not private goods, but not always in the sense of being "public goods" because they may not normally be used without (some) detriment to their value to subsequent users. Locational advantages are about relevant complementary assets outside the boundaries of the MNE (or other firms) that are location specific. MNEs have the ability to spatially organize their activities (and across borders), and select where to locate to take advantage of differences in the quality, availability and price of location-bound assets, both within countries and across countries. MNEs most often seek locational advantages *that already exist* in the host location (and in this case, SEZ), and deepening of investment occurs generally in response to improvements in locational advantages (Narula and

Santangelo, 2012). This makes it difficult for low-income countries to attract higher, more knowledge-intensive activity in the first instance, because this type of FDI tends to go to places with the appropriate comparative advantage and infrastructure, typically associated with in emerging and advanced economies. Such locational advantages are expensive to create and take years to develop across an entire economy. Hence, the principle of a geographically delimited zone (such as an SEZ) with higher locational advantage than the rest of the country. There are three types of locational advantages that an SEZ can offer. Figure 1 integrates the concept of locational advantages with the SEZ development ladder.

*“Generic” locational advantages.* Most of the SEZs in low-income countries continue to offer what is best described as “generic” locational advantages, which are easily replicable (McIntyre et al., 1996), such as basic infrastructure, land, and unskilled labour. The kinds of MNE activity attracted by such locational advantages are low value-adding activities and imply mostly low capital expenditure on plant and equipment (extractive industries being the exception). Such FDI is less “sticky”, i.e., more footloose. The location of labour-intensive production becomes steadily less attractive to an MNE as the costs of labour rises, particularly where productivity improvements fail to match wage cost increases, however modest these might be. Buyer-dominated GVCs (and their associated MNEs) often have multiple operations in several countries and are able to shift production to wherever the suppliers are able to be most price competitive and labour costs are lowest.

The widespread adoption of export-oriented, MNE-assisted development strategies have seen a large number of SEZs, many of which offer other facilitated regulatory regimes and simplified institutional regimes for SEZ actors, but these are also becoming fairly “generic” as almost all countries offer fairly similar setups. For instance, almost all countries and SEZs offer facilitated and streamlined “fast track” FDI approval and facilitation procedures and offices, such as efficient regulatory environments, basic infrastructure (water, electricity, roads), bonded workshops, and efficient transport links, so much so that these can no longer be described as “advantages” (Frick and Rodríguez-Pose, *this issue*).

*Government-induced locational advantages.* An “intermediate” type locational advantage is one that is government-induced, mainly associated with subsidies and incentives that the host country may offer, more generally, or in specific SEZs. These include one-stop and facilitated fast-tracking of investments, tax breaks, low-cost financing, modified labour standards and workers’ rights. Unfortunately, these are also imitable, with growing competition between regions, countries and SEZs which has also made them fairly generic. From the perspective of economic benefits, offering such incentives can lead to “immiserizing growth” (Kaplinsky and Morris, 2001: 21) where an increase in overall economic activity with more output and more employment still leads to falling economic returns.

**Table 1. SEZ development ladder and the evolution of locational advantages**

Kinds of locational advantages associated with SEZs		Zone policy objectives	Types of SEZs
<b>Low-income countries</b>	<p>Key comparative advantages are associated with <b>generic locational advantages</b>:</p> <ul style="list-style-type: none"> <li>• Large supply of unskilled labour</li> <li>• Natural resources (extractive or agricultural)</li> </ul> <p>Government-induced locational advantages:</p> <ul style="list-style-type: none"> <li>• Incentives, subsidies</li> </ul>	<ul style="list-style-type: none"> <li>• Improve direct employment and export benefits</li> <li>• Attract GVCs in resource-intensive and labour-intensive sectors</li> <li>• Promote industrial development and diversification</li> <li>• Offset weaknesses in investment climate in limited area.</li> <li>• Pilot business reforms in limited area</li> <li>• Provision of basic infrastructure in limited area</li> </ul>	<ul style="list-style-type: none"> <li>• Multi-activity zones, often with a focus on labour-intensive activities</li> <li>• Resource-based zones aimed at attracting processing industries</li> </ul>
<b>Middle-income countries</b>	<p> <b>Declining importance</b></p> <p> <b>Growing importance</b></p> <p>Specialized locational advantages:</p> <ul style="list-style-type: none"> <li>• Advanced skills in technology and management</li> <li>• World-class universities and research centres</li> <li>• Agglomeration advantages owing to presence of clusters of specialized suppliers and customers</li> </ul>	<ul style="list-style-type: none"> <li>• Industrial upgrading</li> <li>• GVC integration and upgrading</li> <li>• Focus on technology dissemination, linkages and spillovers</li> </ul>	<ul style="list-style-type: none"> <li>• Specialized zones focused on GVC-intensive industries (e.g. automotive, electronics)</li> <li>• Services zones (e.g. BPO, call centres)</li> </ul>
<b>Upper-middle-income countries</b>	<p>Specialized locational advantages:</p> <ul style="list-style-type: none"> <li>• Advanced skills in technology and management</li> <li>• World-class universities and research centres</li> <li>• Agglomeration advantages owing to presence of clusters of specialized suppliers and customers</li> </ul>	<ul style="list-style-type: none"> <li>• Supporting transition to services economy</li> <li>• Attracting new hi-tech industries</li> <li>• Focus on upgrading innovation capabilities</li> </ul>	<ul style="list-style-type: none"> <li>• Technology-based zones (including R&amp;D, hi-tech, bio-tech zones, etc.)</li> <li>• Specialized zones aimed at high value-added industries or value chain segments</li> <li>• Services zones</li> </ul>
<b>High-income countries</b>	<p>Government-induced locational advantages:</p> <ul style="list-style-type: none"> <li>• Strong innovation policies to promote learning and upgrading</li> <li>• Access to supranational R&amp;D funding</li> </ul>	<ul style="list-style-type: none"> <li>• Providing an efficient platform for complex cross-border supply chains</li> <li>• Focus on avoiding distortions in the economy</li> </ul>	<ul style="list-style-type: none"> <li>• Logistics hubs free zones only (not industrial free zones)</li> <li>• Innovation and new industrial revolution objectives pursued through science parks without separate regulatory framework, or through incentives not linked to zones</li> </ul>

Source: Authors, based on UNCTAD (2019): Table IV.5, p 141.

The use of incentives and subsidies is no substitute for the presence of specialized (as opposed to generic) advantages, because in locational tournaments involving richer countries, the least developed countries are bound to lose (Mytelka 1996; Jauch 2002). As the World Investment Report 2019 has illustrated, the number of SEZs has continued to multiply, even within individual countries. However, most have few unique features beyond generic locational advantages and government-induced incentives, and have become less unique, and consequently tend to generate few long-term positive development effects. (Moberg 2015; Mcintyre et al., 1996).

The dependence on incentives and subsidies as a means of attracting MNEs is fraught with difficulty and is necessarily a short-term solution. From an economic viewpoint, FDI incentives can only be justified if they are not larger than the overall expected benefits from the foreign investment.<sup>3</sup> Indeed, these incentives are so commonplace that they are also generic (Figure 1). Countries, in fact, end up offering so many of these types of incentives that it leads to the SEZ generating a net negative outcome, owing to what is known as a “race to the bottom” (Jauch, 2002). The evidence would suggest that such incentives are less important for long-term achievements than developing and upgrading the quality and extent of a country’s absorptive capacity through improvements in its knowledge infrastructure.

In an era of GVCs, SEZ investments are not normally tightly integrated into the investing firm’s organizational structure: MNE-led GVCs exercise control through a variety of operational modes that do not involve ownership. GVCs are cross-border chains that engage a rich network of actors that are linked through a variety of equity and non-equity means within specific sectors (Beugelsdijk et al., 2009; McDermott et al., 2013; Srai and Alinaghian, 2013, UNCTAD, 2011 and 2013). This quasi-internalization has the *potential* to create opportunities for firms in developing countries to participate in MNE-dominated GVCs (Giuliani et al., 2005; McDermott and Corredoira, 2010). However, such potential depends greatly on the health of domestic and foreign lower-tier suppliers with whom to link with. SEZs that emphasize a preference for flagship foreign MNEs to build their SEZ around are less likely to become embedded within the local economy (Frick and Rodríguez-Pose, *this issue*). Small movements in relative prices of key inputs or a reduction in government-induced locational advantages (relative to other countries or SEZs) are likely to see an exit of MNEs, or a gradual immiserization of benefits (Kaplinsky 1993), and a subsequent attenuation of linkages and longer-term benefits.

The creation of viable agglomerations around SEZs is fairly challenging to achieve. An early study by Head et al. (1994) showed that agglomeration is determined less by differences in natural resources, labour and infrastructure, but by the presence

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<sup>3</sup> See Blomstrom and Kokko (2003) for a number of convincing arguments against FDI incentives.

of other firms. Nonetheless, the presence of a certain minimum level of location-specific advantages (infrastructure and skilled labour) must be necessary as a catalyst to attract both MNEs and domestic firms to establish themselves in a given spatial area. The presence of domestic firms with the technological capabilities (and the capacity of the state to stimulate entrepreneurs to thrive) to engage with MNEs is crucial if an SEZ is to thrive (Aggarwal, 2011).

Domestic firms benefit greatly from backward linkages not only because this raises employment and output of the domestic suppliers, but also because domestic firms are powerful channels for diffusing knowledge and skills. Strong linkages can improve the managerial and marketing capabilities of the domestic firm and promote production efficiency. In most cases, the foreign affiliate will also transfer proprietary technological assets such as designs and patents to the supplier firm. This often results in the creation of a globally competitive supplier, and the supply arrangement may eventually result in the domestic firm being used as a supplier for the MNE's global production in other countries as well. There are a variety of indirect economic effects to the host economy that come from the establishment of a viable domestic supplier, because of mobility of trained labour, spin-off firms, and improved technical capabilities of the economy in general. Additionally, these domestic suppliers will also seek to promote sub-suppliers.

*Specialized locational advantages.* The third group are "specialized" locational advantages, and the more unique these specialized advantages are, the greater the likelihood that the SEZ will thrive. It is only in those sectors where "specialized" locational advantages, associated with higher value addition, exist that host countries can benefit significantly from MNE activity in the long run. This requires a considerable amount of government interaction and investment in knowledge infrastructure, associated with tertiary education, research institutions and other key scientific resources. Governments need to provide more active support through macro-organizational policies, particularly science and innovation policy. This implies developing and fostering specific industries and technological trajectories, such that the locational advantages they offer are less "generic" and more specific, highly immobile and such that they encourage mobile investments to be locked into these assets.

As figure 1 illustrates, the SEZ development ladder is concatenated with the changing locational advantages available. The *raison d'être* of the SEZ needs to evolve with the host country's comparative and locational advantages. Regardless of the stage of the development ladder, the most successful examples of SEZ policies have sought to attract MNEs, while, in tandem, building domestic absorptive capacities and a strong local sector. One of the main points that Figure 1 makes is that as the country's advantages change with development, the emphasis and the objectives of the SEZ must also change. The most successful SEZ policies have sought to

link with industrial and investment policies (UNCTAD, 2018), and over time greater emphasis needs to be placed in developing specialized locational advantages. The paper by Chen (*this issue*) discusses how Chinese SEZs, for example, have actively sought to upgrade locational advantages within their respective regions to encourage MNEs to both deepen and broaden their local value addition activities. It is not merely the presence of locational advantages, but their *stability* that shapes the success or failure of an SEZ in development terms. Supplier networks and GVC linkages evolve over time and embedding the MNE in the domestic economy is a gradual and slow process (Narula and Dunning, 2010).

Another benefit of establishing or promoting domestic suppliers to foreign affiliates is that they increase the “stickiness” of the foreign affiliate, making them less footloose, and more likely to deepen their investment by upgrading. Indeed, this is perhaps one of the most significant weaknesses of Russia’s SEZs (Kuznetsov and Kuznetsova, *this issue*). Furthermore, there is a learning effect, because as the foreign affiliate becomes more familiar with the key aspects of the host economy’s knowledge infrastructure and other specialized locational advantages, the more likely they are to invest in other unrelated industries and sectors. They are therefore less likely to divest as a result of rising wages, and other weakening generic locational advantages due to changing factor endowments.

SEZ growth is difficult to sustain over time, and this makes the SEZ development ladder of crucial importance. Economic growth leads to structural change, and the kinds of MNE engagement necessarily also changes (Narula 1996; Pineli et al., 2019). Generally, the economic dynamism of the most successful zones happens in their early years and decelerates over time, leading to the slowing of zones’ economic performance to that of their surrounding areas. Far from being a sign of SEZ failure, this is an indication of SEZ success (UNCTAD, 2019).

## **4. The SEZ as a tool to overcome specific development challenges**

### **4.1. Tackling spatial inequalities using SEZs**

States often regard SEZs as a key tool to modify the spatial distribution of economic activity (Kuznetsov and Kuznetsova, *this issue*). That is, governments seek to create formal economic activity in regions or locations where little (or none) may have previously existed. The success of an SEZ approach to upgrade a laggard region lies not just in the ability of the state to overcome weaknesses in locational characteristics in such an SEZ, but their ability to create a significant cost advantage for MNEs that agree to establish in such a location. This may be through subsidized,

high-quality infrastructure that overcomes the cost disadvantages of being situated far from key customers and suppliers (i.e., the provision of government-induced and specialized locational advantages). At an earlier stage of the SEZ development ladder (Figure 1), such remotely located SEZs can also rely on more generic locational advantages. These cannot simply be low-cost labour, but would include intervening in markets by providing SEZ participants with privileged access to specific (possibly rare) location-bound inputs (such as exclusive property rights in extractive industries); or privileged access to local markets. In short, governments need to distort the market, and this can be very expensive and is rarely sustainable in the longer run. Foreign MNEs are rarely concerned with the political imperatives of development; dislodging entrenched spatial disparities (whatever the root of the disparity) is outside the remit of MNEs, and there needs to be an economic return from any investment.

The key challenge to optimizing an SEZ policy is that while immediate employment opportunities within a remotely located SEZ may increase, the longer-term, wider benefits from FDI depend crucially on the presence of other economic actors with whom the MNE might engage. A peripheral, economically backward location will typically also suffer from the absence of strong formal actors with whom linkages might develop, and to whom spillovers might accrue. There is a very real danger that the SEZ remains an enclave, dominated by MNEs that internalize all aspects of their value-adding activity. Such zones may end up as enclaves for foreign investors, with few or no local firms linked to them. Frick and Rodríguez-Pose (*this issue*) observe that promoting SEZs in relatively remote rural and isolated regions is unlikely to add much economic value. Indeed, far the biggest bottleneck to SEZs that are located in an underdeveloped location is inadequate local participation (Frick et al. 2019). Brautigam and Xiaoyang (2011) observe in the case of Chinese SEZs in Africa that they, in general, do not employ Africans or employ them only at the lowest levels; and fail to transfer or diffuse technology and know-how.

It should be said that this absence of linkages with, and embeddedness in, the local economy reflects a fundamental weakness in the domestic sector, and in the case of African countries, reflects not only an internal spatial disparity (i.e., a strong bias towards a dominant cluster of industrial activity around a single city), but a more general problem as well. African domestic industrial activity has significant weaknesses, notably poor infrastructure, weak linkages to modern sources of innovation and technology, and inconsistent or poor government support (Brautigam and Xiaoyang, 2011).

Having said this, utilizing SEZs to reduce spatial inequalities is not an impossible task: China has proven to be highly successful in overcoming regional disparities (Chen, *this issue*), although it is very unlikely that peripheral economies can afford to follow the Chinese example, given that one of the key locational advantages that

China has to offer is access to its very large domestic market. Other countries have been less successful, as Kuznetsov and Kuznetsova (*this issue*) illustrate for certain Russian SEZs. Spatial and industrial policies exist in many countries, yet they are rarely coordinated or aligned (Farole and Sharp, 2017).

## 4.2. Upgrading and linking to the informal economy

One of the largest development challenges for less-developed countries is their large informal sector. Estimates of the share of the population in the informal economy are as high as 88 per cent in South Asia, with 83.4 per cent of employers and 64.5 per cent of employees classified as informal (ILO, 2018). Indeed, the low productivity of such large shares of the population in the informal sector drives the large inequalities within less-developed countries (Narula and Van der Straaten, 2019). The informal sector is predominantly populated by small enterprises or individual actors performing labour-intensive activities. Organizational skills, technological or managerial expertise play a limited role, and few informal actors have access to financial capital that allows them to expand their activities. The informal sector is often associated with rural populations, but also with the urban poor (Godfrey 2011; Narula 2019). Informal actors are individuals and enterprises that are unregistered and unregulated and pay no taxes. As a consequence, they tend to engage in low productivity activities with limited growth opportunities. Individuals trapped in the informal sector tend to be undernourished, less educated with shorter lifespans, and fewer opportunities to escape poverty (La Porta and Shleifer, 2008).

By definition, most economic actors located within an SEZ are in the formal sector, with the possible exception of casual labour employment. Nonetheless, the cost competitiveness of many less developed countries within GVCs greatly depends on the ability to utilize suppliers and employees that are informal. Formal sector firms (within SEZs as well outside them) are intricately linked to suppliers in the informal sector (who are invariably located outside the SEZ) and rely on low-cost unskilled labour that are informally employed (within the SEZ). However, the mechanisms by which formal and informal suppliers interact are complex and opaque, in part because the actors themselves are in a constant state of flux. Government failure (and regulatory capture) means that, in practice, informal actors within GVCs are disadvantaged and unprotected by labour standards, and are exploited through poor working conditions and subsistence wages (Narula, 2019). The problems of informality and moving these actors towards the formal economy lie at the heart of the development policy of many low-income countries, and is a key source of underdevelopment. Most policy initiatives in the developing world have proven to be ineffective in addressing informality (Chen and Doane, 2008).

Indeed, many SEZs, especially those in South Asia, rely considerably on the informal sector as a source of cost competitiveness. For example, the majority of workers

employed by lower tiers of Bangladesh's apparel GVCs are informally employed, a large percentage of whom are female (Narula, 2019), and they are the key source of labour in Bangladesh's apparel-focused SEZs. In the case of India, which has over 300 SEZs, Hyun and Ravi (2018) find that SEZs help to structurally transform the economy away from informality towards greater formality. They find evidence that every additional operational SEZ instigates a 1 per cent increase in the proportion of new firm formation, the presence of an additional SEZ stimulates the formation of new firms that are 18.6 per cent more productive and pay 5 per cent higher wages. However, Hyun and Ravi also find that an operational SEZ affects informal manufacturers negatively (compared to districts with no SEZ), by severely reducing value added and total production, and decreases their employment, labour productivity and wages.

As pointed out in UNCTAD (2019), the increasing importance of CSR standards, and their adoption by MNEs can play an important role in helping with "social upgrading" within SEZs. However, CSR policies are necessarily focused on narrower goals than social upgrading. Firms' immediate goals from CSR are primarily to improve the working conditions in their factories, and to a lesser extent those of their suppliers (Gereffi and Lee, 2016). CSR policies and the extent to which firms take these policies seriously reflects a variety of factors, around which a large literature has evolved (for a review, see Kolk, 2016). Suffice it to say that there is a great desire by MNEs to be seen by their stakeholders to be "doing good": it is no longer sufficient to be "doing no harm", although the degree to which CSR policies are implemented varies quite considerably depending on issues such as the degree of control the MNE parent exerts over its affiliated firms and the nature, variety and influence of the stakeholders in question (Yang and Rivers, 2009).

CSR standards can help bring the MNE's supply chain informal actors into the formal sector and push them to have similar work conditions as formal firms. However, it can also isolate small-scale producers, informal enterprises and informal sub-contractors from the supply chains of MNEs, and effectively reduce opportunities for entrepreneurs, start-ups and informal workers to benefit from the positive outcomes of SEZs.

## **5. SEZs and dynamic effects**

A question that several papers in our special issue (Aggarwal, *this issue*, Chen, *this issue*) and elsewhere (Madani, 1999; Schrank 2001; Farole and Akinci 2011; Frick et al., 2019) address is: What happens to an SEZ in a dynamic scenario, when the original source of comparative advantage diminishes? That is, where a host country establishes an SEZ to take advantage of, say, low-cost labour, what should be done when labour is no longer its locational advantage (relative to other countries or

SEZs)? China has proven adept in moving along the SEZ development ladder (figure 1), towards progressively more complex and knowledge-intensive activities as its advantages have changed (Chen, *this issue*), but few less-developed countries have the organizational and financial resources to emulate the China model.

It is not always the case that comparative advantages change: the SEZ may be over-specialized around a single or narrow industry (e.g., business process outsourcing or textiles), or where it is built around a key MNE. This is especially problematic where the infrastructure is not easily repurposed for a different industry or firm.

Aggarwal (*this issue*) echoes Lin and Monga (2010) who suggests that the government should act to identify new industries in which the country may have a latent comparative advantage and remove the constraints that impede the emergence of industries related to that advantage. The largest bottleneck, however, in SEZs evolving dynamically towards a new or different specialization are the resources needed to upgrade the human capital available to firms within the SEZ. Structural mismatches exist between the kinds of investments that host countries seek to attract, and the locational advantages that are needed for the MNEs to make a longer-term commitment to that location. It must be underlined, however, that the absorptive capacity of domestic firms does not depend entirely on the efforts of the domestic sector. Their success or failure occurs in consort with an entire “system”, as learning and innovation that involves interactions not only with their competitors, customers and suppliers, but also with the macro environment. Factors such as culture, institutions and infrastructure mould the mechanisms of knowledge creation and distribution within a country (Lorentzen, 2005; Barnes and Lorentzen, 2006; Criscuolo and Narula, 2008). If the “right” institutions are absent in this environment, it is much harder for domestic firms to absorb and effectively deploy external knowledge.

## 6. Benefits beyond the SEZs

One of the indisputable findings in both the academic research and UNCTAD (2019) is that the benefits of an SEZ must intentionally “leak” beyond the perimeter of the zone. The immediate benefits of the SEZ to the broader economy are generally modest, and once the costs are considered, an SEZ may even have net negative outcomes. Their effect beyond their immediate vicinity is limited, as Frick and Rodríguez-Pose (*this issue*) note: while SEZs contribute to the growth of surrounding areas, this effect suffers from strong distance decay. Indeed, the success of an SEZ should not only be measured by the intra-SEZ effects or its influence on its immediate surroundings, but also its contribution as a catalyst to the upgrading and economic health of the larger economy, either at a regional (subnational) or national level.

Establishing effective SEZs – and by this we mean SEZs that further the MNE-assisted development agenda – requires more than waiving restrictions on FDI in SEZs. They cannot substitute for a congruent set of policies towards FDI more generally in the larger economy, as the case of Russia illustrates (Kuznetsov and Kuznetsova, *this issue*). Low-income countries must create a conducive environment to enable them to fully exploit the potential benefits resulting from the presence of foreign MNEs. Moreover, a sound SEZ policy must also not be exclusively concerned with attracting capital investment but must give the same importance to enhancing the local embeddedness of the MNEs. It is important to underline that all SEZ investments are not equal. The *quality* of the investment received is at least as important as the quantity. Quality has to do with the MNE's investment motivations, the affiliates' remit and autonomy, and these will have a direct impact on the potential for linkages and spillovers.

It is important that SEZ policy be intricately linked to industrial policy and trade policy. Indeed, 21<sup>st</sup> century industrial policy is crucial to create internationally competitive industries (UNCTAD 2018). “Modern” industrial policies should dovetail with SEZ policy, focusing on deepening and widening the country's locational advantages to the same (higher) level of SEZ locational advantages, to encourage the expansion of MNE activities beyond the perimeter of the SEZ. Central to this is the strengthening of domestic firms' capacity to absorb the knowledge spillovers and connecting to the value chains set up by MNEs. This may be done through a variety of interventions, from investment in human capital and technological capabilities to the promotion of industrial clusters to facilitate knowledge flows.

## **7. Looking to the future: implications for research and policy**

The review above shows that the success of SEZs is not guaranteed and the development benefits not automatic. Policy and strategy matter. More importantly, in recent years the operating environment has toughened, and zones are confronted with new challenges that pose a series of research and policy questions (Zhan, 2018; Zhan et al., 2019).

### **7.1. Three challenges**

*The first challenge is global policy uncertainty and fiercer competition for investment.* More than a decade after the global financial crisis global FDI remains below its peak level in 2007, and the road to its recovery will continue to be bumpy. The proliferation of SEZs is generating fiercer competition for a shrinking pool of internationally mobile investment. Trade policy factors are also changing patterns of international production as MNEs shift GVCs in response to new trade barriers

or changes in preferential market access. The return of protectionist tendencies, slow progress in international trade policymaking, and the proliferation of bilateral and regional trade and investment agreements can thus significantly affect SEZ competitiveness (Zhan, 2019).

*The second challenge is changes in traditional comparative advantages.* For SEZs, the slow growth in global trade and investment is compounded by technology-driven erosion of location-based advantages from which SEZs traditionally profited. “Generic” locational advantages such as cheap labour and abundant land are no longer enough to ensure investors will sign up, as enhanced digitalization and the proliferation of automation have become important drivers of competitiveness and thus determinants of investment. The new industrial revolution is changing manufacturing industries. MNE overseas operations are increasingly intangible and asset-light, making the traditional physical production advantages offered by SEZs less relevant. This trend is likely to result in increasing numbers of zones specializing in services, on the one hand, and smaller-scale manufacturing (e.g. digital twins, see UNCTAD, 2017), on the other. Both developments can potentially lead to higher technology and intellectual property content in SEZ production, requiring SEZ incentives to foster contributions to industrial upgrading and skills development.

*The third challenge is the sustainable development imperative.* Sustainable development and inclusive growth have moved high up on the global agenda with the announcement of the SDGs in 2015. The SDGs will determine the development objectives of the international community over the remaining eleven years of the envisaged 2015-2030 timeframe of the development agenda. MNEs and SEZs alike are under considerable pressure to curb their negative impact on communities and the environment and to pursue business activities that will help advance the SDGs (Narula and Van der Straaten, 2019; UNCTAD, 2014). This shift in corporate behaviour and business models is already under way, directed largely from within corporate ranks, spurred also by reputational risk factors that have prompted the private sector to adhere to ever-stricter ESG standards. The power of larger firms is driving this change not only within industries, but across entire value chains, with smaller competitors and suppliers being actively induced to change their behaviours. This has put SEZs – that are an integral part of global and regional value chains – at the centre of pressure to comply with elevated ESG standards and to explore sustainable development business models.

## **7.2. A research agenda for future generations of SEZs**

These new challenges also present opportunities for SEZs to reinvigorate their competitiveness and enhance their sustainability. The search for the ways and means to revitalize the thousands of existing SEZs and build a new generation of

zones presents ample scope for a forward-looking research agenda on SEZs. The following are some research questions that merit attention.

### ***7.2.1. How to integrate sustainable development into SEZ business models?***

The sustainable development agenda increasingly drives MNEs' strategic decisions and operations. Lax social and environmental rules or controls are no longer a viable long-term competitive advantage to attract investment in zones. On the contrary, they can lead to zone failure when the SEZ becomes associated with labour or human rights abuses, projecting a negative image that discourages investment. More research is needed to help point the way towards more effective mechanisms to promote or enforce high ESG standards in SEZs; to indicate the types of shared services in SEZs that can best support sustainability, such as common health and safety services, environmentally-friendly waste management and renewable energy sources; and to explore whether and how incentives conditional on social and environmental indicators can become a more effective tool to drive SEZs' sustainable development impact.

### ***7.2.2. How to factor the digital economy into SEZs' operational models?***

The incorporation of digital technologies in global supply chains across most industries has had profound effects on international production. Digitalization presents challenges but also opportunities within these international production networks. The very lifeblood of an SEZ is the provision of value chain linkage opportunities to firms located in the zone. It is therefore essential that they advance digital adoption and connectivity if they are to remain competitive and relevant players within these networks. Future research could explore how to target digital investors in SEZs and orient the strategic strengths of SEZs in the logistics facilitation e-commerce firms' distribution activities. It could look at how national digital policies (e.g. privacy legislation, data storage and security) affect SEZ success. And, more generally, it could identify the best ways to adapt SEZ value propositions to the digital age.

### ***7.2.3. How to tap into new forms of investment and foster new partnership?***

Numerous new forms of private finance have sprung up in recent years, which broaden the scope and diversity of investor bases that can be sought out. SEZs could stand to benefit if they explore and form partnerships with these alternative investors. They include venture capital funds, fintech, impact investment funds and crowdfunding ventures. Although only in their infancy in many developing countries, such investors nevertheless provide viable funding streams to smaller firms (that often set up shop in SEZs) that might otherwise be overlooked by risk-averse finance institutions, such as banks.

A partnership approach could also revitalize stagnant, uncompetitive economic zones. Some experienced public and private developers from countries such as China, India, Japan, France and Singapore offer to build and/or manage modern SEZs outside their home countries. Some can provide funds and expertise in this respect. Regional development zones and cross-border zones spanning two or three countries can also be an option through international cooperation.

New insights are needed on how to encourage venture capital into SEZs to boost start-ups in sectors with high growth potential, and on how to foster international cooperation on zone development, especially for low-income countries, including building new zones through partnerships or as part of development cooperation programmes.

In sum, to survive in the challenging current environment, the strategic approach of SEZs must innovate – orienting away from the provision of low-cost export hubs with weaker standards – toward establishing centres of excellence on sustainable development. Through novel competitive advantages, high-quality infrastructure, and robust environmental and social standards, SEZs can be restructured to increase their effectiveness in attracting investment from MNEs seeking increased sustainability in their value chains.

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# SEZs and economic transformation: towards a developmental approach

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This study presents a three-pillared analytical framework for the success factors and development outcomes of special economic zones (SEZs). The core argument is that countries that adopt a well-structured approach towards SEZs that they can align with the broader development strategy, execute effectively, and continuously evaluate and manoeuvre over time, are more successful in achieving SEZ-led economic transformation than others. This requires strategic bureaucratic competencies to make the right choices and set clear strategic directions; strategic bureaucratic learning to dynamically and interactively engage in adjusting the strategies when needed; and strategic bureaucratic strengths to implement the strategy effectively. These elements in turn need an effective political leadership with a strong development focus that can energise and motivate bureaucracies. The study revisits the experience of successful, not-so-successful and least successful countries across the globe within this framework and concludes by raising some pertinent concerns about SEZ-led development strategy that emerge from the analysis.

**Keywords:** Special economic zones, economic transformation, conceptual framework, political will, bureaucratic capabilities, developmental state

**JEL:** E02 O1 O2 F1

## 1. Introduction

The proliferation of global value chains (GVCs) has revolutionised the world economy by opening new paths of industrial development for developing countries. Instead of building up industrial capacities from scratch, these countries can join existing supply chains and upgrade along them (Baldwin, 2013). This opportunity has unleashed intense competition among developing countries to attract GVC-linked investment using various policy tools. One policy tool that is increasingly believed to be most powerful in this drive is special economic zones (SEZs).

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In recent years, SEZs have become the rage with policymakers around the world, who appear to be convinced of the usefulness of SEZs in bringing about industrial transformation and sustained growth, resulting in an unprecedented surge in their number. According to the World Investment Report, there are 5,400 zones in operation across 147 countries, (4,000 five years ago); more are being added, with more and more countries embracing them or updating or expanding the existing ones (UNCTAD, 2019). SEZs are physically delineated areas where host countries relax rules and regulations, build efficient infrastructure, and offer substantial fiscal and non-fiscal incentives in the hope of attracting GVC activities, which are highly responsive to business environments and costs. There is a general presumption that by facilitating the host country's insertion into GVCs, SEZs can drive trade, FDI inflows and technology transfers, which in turn generate spillover effects and catalyse the process of economic transformation in the wider economy. However, the evidence indicates that very few countries have managed to leverage SEZs to achieve far-reaching economic transformation (Aggarwal, 2012a). In several countries SEZs have succeeded in driving FDI, exports, production and employment, but they have had limited or little impact on the development process in the wider economy (FIAS, 2008; Frick et al., 2018). In many other countries, SEZs are utterly unsuccessful even in attracting investment and economic activity (Farole, 2011).

This result has raised a critical question: Why are the development outcomes of SEZs so varied? The burgeoning literature on critical success factors of SEZs focuses mainly on best practices to follow in developing SEZs to make them attractive for foreign investors. Indeed, there are concerns about the development spillovers of SEZs as well, but these are addressed by offering general policy prescriptions, such as lowering transaction barriers between SEZ and non-SEZ firms, and upgrading technical and human skills in the wider economy. What is missing in this literature is the vital link between SEZs and national development strategies. Instead, SEZs are viewed as a separate system within an economy, with little connection with the overall development strategy.

This article argues that the key to SEZ success lies in institutionalising the zones into policy and planning. More specifically, the SEZ policy needs to be an integral and sustainable part of the broader development strategy. Institutionalisation of SEZs does not mean entrenched SEZ practices; rather, it means that SEZs must be able to respond to the dynamic realities of the economy. Although a few studies (for instance, Zheng, 2016) have also argued for integrating SEZs into broader development strategies, there are few guidelines as to how to do that. This study addresses that gap in the literature and presents a cohesive, comprehensive and integrated three-pillared analytical framework for linking SEZs with broader development planning. I call this framework an "integrated institutional framework of SEZs" (IIF). The three pillars of the framework are, first, a well-structured strategic

approach to SEZs, well grounded in a broader holistic economic development strategy; second, strategic dynamism in the approach towards SEZs, well informed by continuous changes in economic conditions to adapt the current SEZ strategies to new development challenges as well as opportunities; and third, effective implementation of these strategies.

The core argument is that successful countries are those that adopt a well-structured strategic approach towards SEZs which they can effectively execute, and continuously evaluate and manoeuvre over time. This requires bureaucratic competencies to make the right choices and set clear strategic directions; strategic bureaucratic learning to dynamically and interactively engage in adjusting the strategies when needed; and strategic bureaucratic strengths along with strong political support to implement the strategy effectively. These elements in turn are contingent upon political will with a strong development focus and leadership that can energise and motivate bureaucracies to achieve the broader development goals to earn creditability, visibility and resources (Ellison, 1995). However, very few countries in the world can perform this feat. This explains why the stories of SEZ-led economic transformation are so few. The study revisits the experience of major SEZ users in the world to show that the performance of SEZs varies directly with these factors. It concludes by raising some pertinent concerns about SEZ-led development strategy that emerge from the analysis.

The rest of the article describes critical elements of each of the three pillars and revisits, within this framework, the experience of successful, not-so-successful and least successful countries across the globe. Success is defined by the extent to which SEZs could be leveraged for economic transformation in the wider economy.

## **2. The integrated institutional framework of SEZs: three pillars**

### **2.1. A well-defined strategic approach to align SEZs with national development strategy**

SEZs can be used to achieve a variety of economic and economic diplomacy goals. They can serve to promote trade and FDI, industrial growth and diversification, spatial rejuvenation and urbanisation, border development, regional integration or international relations. However, this does not happen automatically. It requires a well-articulated strategic approach. A strategic approach defines what policymakers expect to achieve with SEZs and how they plan to achieve that. According to the first pillar of the framework, it is critical that the strategic approach adopted for SEZs is aligned with the broader development strategy. An alignment between the zone programme and broader strategies of industrialisation helps ensure long-

term political support and resource commitments to zone development. More importantly, the synergies between a strategic approach to SEZs and national development create a mutually reinforcing and self-supporting system wherein the benefits of zones flow forward, backward and vertically, expanding capacity and improving the competitiveness of the wider economy. But this calls for a high level of bureaucratic expertise to assess synergies and trade-offs among different policy options at different levels and set strategic direction for SEZs to develop mutually reinforcing policies for achieving national goals and objectives. Policymakers must have clear answers to three questions: why should SEZs be set up? How can they be aligned with the broader development strategy? What objectives should be assigned to SEZs and how they can be achieved?

*Understanding the rationale of SEZs:* It is noteworthy that SEZs are no panacea for all development ills of a country. The nature of investment-impeding challenges determines whether SEZs are warranted at all. SEZs are a tool to address essentially those investment-impeding, inefficient regulatory institutions that can change quickly but are not necessarily changed because of sociopolitical compulsions. If investment is impeded by structural conditions such as factor endowments, exchange rate valuation, inflation rates, lack of human skills, sociopolitical instability, or physical and geographical factors, SEZs will themselves be constrained by them. This means that the relevance of SEZs is context-specific and that policymakers should have a clear understanding of investment-impeding institutions and the usefulness of SEZs in targeting them.

*Aligning SEZs with national development strategies:* Three broad approaches to aligning the two may be identified: complementary, reinforcing or central:

- *Complementary (or enclave) approach:* In a tariff-distorted economy, the role of SEZs is essentially to counter the anti-export bias created by a protectionist development strategy. In such a regime, SEZs can promote exports and foreign exchange earnings, and accelerate the growth process by allowing duty-free imports of the machinery and technology necessary for growth sectors. In a different scenario, a country that follows highly restrictive policies for FDI to protect domestic industries from competition may set up SEZs to promote FDI inflows within SEZ localities to ensure technology transfers and other related benefits. Similarly, non-capitalist countries may set them up as testing labs for reforms in the wider economy. In all these cases, the role of SEZs is to complement the national development strategy by overcoming the trade- and FDI-related challenges posed by the latter. Thus, SEZs need to be developed as enclaves of liberal trade and FDI policy in strategic locations near seaports, airports and highways, offering streamlined administrative procedures, basic industrial infrastructure, cheap labour, investor-friendly customs procedures, and a multitude of fiscal and non-fiscal concessions.

In addition, SEZs can complement the development strategy in many other situations. For instance, countries that take the route of capital-intensive or high-tech industrialisation may focus on employment generation in SEZs. Or, SEZs may complement the national strategy of promoting large businesses by focusing on small businesses in SEZs, or vice versa. Or, SEZs may be leveraged to counter unbalanced regional development in the wider economy. The SEZ design, facilities, infrastructure and incentive structures will vary depending upon the objectives assigned to SEZs.

- *National strategy reinforcing approach:* Instead of being complementary to the development strategy, SEZs can be instrumental in reinforcing it. In a globalised regime, for instance, SEZs may underpin export-oriented industrialisation by driving FDI, exports and technology inflows. A critical element of this approach is to offer a highly favourable business climate in SEZs and combine it with intense marketing to attract FDI. Policymakers may adopt an enclave approach towards SEZs, whereby they focus only on making SEZs attractive and do nothing else. Alternatively, they may develop an action plan to catalyse FDI spillovers in the wider economy by promoting linkages with the rest of the economy. This may be achieved by lowering transaction costs between SEZs and outside firms to incentivise them to engage in business transactions. A more proactive approach would be to design SEZs strategically to attract FDI in those industries that are targeted as priority industries in the broader development strategy. Entry into GVCs would promise access to a global pool of new technologies, skills, capital and markets, as well as learning opportunities through technology spillovers in the target industries. As the economy transitions from one stage of development to another and targets new industries, it faces new challenges – technology gaps, patchy supply chains and insufficient scale. governments can manoeuvre SEZs as policy laboratories to reduce learning costs and expose firms to global product standards. Thus, SEZs may serve as incubators of ideas and economic and industrial policies for catalysing growth and economic development in the wider economies. In addition, SEZs can also reinforce national strategies of promoting large businesses (as in India); or small businesses (as in Taiwan Province of China) or balanced regional development (Republic of Korea) or regional cooperation (the growth areas of Mali–Burkina Faso–Côte d'Ivoire or Brunei–Indonesia–Malaysia–the Philippines).
- *Development-centred approach:* The third alternative is to place SEZs at the centre of the development strategy (as in China). This approach is based on the notion that externalities created by SEZs can drive growth. One body of literature in this line of thinking proposes to align investment in the rest of the economy with that attracted by SEZs to build domestic

capacities in SEZ industries. In this case, instead of picking winners and building domestic capabilities in them, policymakers can focus on developing domestic production capabilities in SEZ industries. To do so, they need to develop policies, agencies and institutions; and proactively fund networks of researchers, start-ups, established firms and consortia to ensure advancements in all segments of the production processes to build domestic capabilities along the value chains. As they build domestic capabilities, they can target more sophisticated market segments such as design, marketing and branding. This is referred to as “vertically-specialised (or smart) industrialisation” (Milberg et al., 2014).

Alternatively, SEZs can be the core of cluster-based industrialisation. Cluster development in emerging economies faces institutional bottlenecks caused by a lack of entrepreneurial dynamism and high spatial transaction costs. SEZs can overcome these constraints by lowering both transaction and production costs. A successful cluster strategy requires a number of conditions: a critical mass of capable and competitive local suppliers in components, machinery and services to support the cluster industries; a network of research and development (R&D) and higher education institutions most integral to innovation and upgrading in business institutions; entrepreneurial skills; and continually improving pools of skills, technology, infrastructure and capital. The action plan based on the objective of cluster development focuses on creating these conditions in and around SEZs.

SEZs can thus support, reinforce or be at the centre of a variety of national strategies. To perform this task requires a high level of bureaucratic capability which itself is contingent on technical expertise, level of enthusiasm, political support and leadership to achieve the mission.

*Setting SEZ objectives with a commensurate action plan:* A set of objectives needs to be developed with a clear understanding of how each objective contributes to the overall strategic role proposed for the SEZs. But, the objectives and strategic goals remain philosophical statements with no grounding in reality if they are not accompanied by a well-designed action plan. An action plan describes the way the goals of SEZs are realised. Generally, it is observed that policymakers tend to provide a highly inflated vision of SEZs, illuminated with a comprehensive set of objectives, but no clear-cut action plan to achieve them. This mis-mapping between policy ambitions and action plans affects the development outcomes and public perceptions of SEZs.

## 2.2. Strategic dynamism

SEZs must be able to respond to the dynamic realities of the economy. For this to happen, the strategic approach towards SEZs needs to be continuously informed by strategic learning. As development takes place, domestic conditions change, and new challenges and opportunities emerge in the economy. At the same time, new agents of change appear; there are shifts in power, interests, perceptions and positioning of the existing actors; and there is demand for new institutions to adapt to new realities. The changing institutional dynamics pose new demands, new goals and new institutional challenges. In line with these dynamics, policymakers must assign new roles, objectives and preferential policy packages to SEZs, and continuously upgrade the existing ones. Instituting monitoring and evaluation (M&E) mechanisms within the SEZ policy can play a crucial role in this process. Monitoring involves regular collecting of information and tracking of the achievement of results; evaluation is the systematic and objective periodic assessment of the SEZ policy including its objectives, design, implementation, outcomes and impacts. M&E provides government officials and stakeholders with the means to learn by doing. Different methods may be adopted for M&E depending on the objectives, indicators identified for evaluation, and availability of both data and human resources. However, M&E is worthwhile only to the extent that it is used to introduce dynamism in the SEZ policy. There can thus be two-way dynamic linkages between SEZs and the wider economy. SEZs catalyse the growth process by addressing inefficient institutions and upgrading the economy, which in turn requires SEZs to also be upgraded to push the economy up the development ladder. This initiates a circular process, which has self-reinforcing and cumulative effects on the economy.

## 2.3. Strategic implementation

Efficient execution of the strategic approach is crucial to the success of SEZs. It is linked positively with bureaucratic strengths, which in turn draw on the technical, managerial and social skill sets, as well as the commitment of bureaucrats and the political support provided to them.

First and foremost, it is noteworthy that SEZ policy is implemented through the collective efforts of various public and private organisations, which may have conflicting agendas, incentives and concerns (Matland, 1995). Although this is true of many other public policies, conflicts in some of those policies are still quite manageable. However, SEZs are incredibly controversial. Effective implementation of SEZs depends on horizontal coordination across government departments, vertical coordination between layers of government, and public support. In many countries (India, for instance), conflicts between interest groups have been at the centre of the failure of the SEZ policy. There is evidence in the literature that SEZs

are successfully implemented in countries where the top authority regulates SEZs directly (e.g., Bangladesh, Morocco, the United Arab Emirates, and Jordan) or where the state has assumed a strong development role (e.g., China, the Republic of Korea and Taiwan Province of China).

Second, SEZs' success is critically linked to their ability to attract investment, particularly FDI, in the first place. This ability depends on onsite, offsite, social and technological infrastructure, as well as regulatory facilitation, facilities, services provided to SEZ tenants and marketing efforts, each of which has financial implications. SEZs require massive financial resources for their development, management, operations and promotion. Even when SEZs are developed by the private sector, there are huge public costs for offsite development and administration.

Third, private participation in SEZ development does not reduce the public sector responsibilities. It requires administrative capabilities within host governments to ensure adequate regulation, facilitation and implementation without friction between the public and private sectors (FIAS, 2008).

Fourth, for the successful implementation of SEZs, macro management of the economy is essential to create an environment in which trade and investment can grow exponentially. Such management requires a set of support policies directed at trade and investment, including membership in multilateral trade agreements and regional trade agreements, bilateral agreements on FDI, and multilateral investment guarantee agencies; regulation of monetary, fiscal, and exchange rate policies; physical property rights as well intellectual property rights; and efficient legal systems.

Finally, it requires well-designed strategies for risk and cost management. The two types of risks attached to SEZs are market risks and SEZ-related risks. Market risks arise from business cycles, political upheavals, and macro mismanagement, whereas SEZ-specific risks involve money laundering and fraud, non-compliance, and changes in the government attitude towards SEZs. In addition, the literature is replete with the economic, social and environmental costs of implementing SEZs. Bureaucratic strengths play a crucial role in handling these challenges. Overall, the implementation of SEZ projects is not about creating mere infrastructure; instead, it is rather complex and calls for a well-designed implementation strategy that needs to be instituted within the policy design, along with the objectives and action plan.

The three-pillared framework presented earlier provides a comprehensive set of conditions for leveraging SEZs for economic transformation. At the core of this framework is the argument that it is particularly important that the government adopt a highly structured approach to developing, implementing and reviewing SEZ policies and strategies. To achieve phenomenal development outcomes using SEZs, the three pillars must continuously reinforce each other.

### **3. The integrated institutional framework and the global experience**

In this section, I revisit the SEZ experience of major SEZ-user countries across the globe within the framework discussed above to provide new insights on their performance. In the absence of SEZ data, I use the available evidence to identify three groups of countries: most successful, not-so-successful, and least successful or unsuccessful, where the term “success” is used to represent the extent to which countries have been successful in leveraging their SEZs to bring about economic transformation in the wider economy.

#### **3.1. Most successful countries**

By far, China, the Republic of Korea and Taiwan Province of China have been and remain the most successful economies in leveraging SEZs to achieve far-reaching economic transformation. All of them have experienced a high level of sustained economic growth over a number of years unparalleled in economic history. SEZs remain a key element of their fully structured development strategies. Given their unique national, social and institutional contexts and national development strategies, they have followed different policy approaches to SEZs, which they continuously manoeuvre and effectively implement to achieve phenomenal success in transforming their economies.

*The strategic approach:* In the 1960s, the Republic of Korea embarked on an import-substituting industrial strategy in the wider economy with a focus on import-substituting heavy industries (fertilizers, cements, steel, machinery and oil refining). To counter the anti-export bias of the regime, it created SEZs of the enclave variety (officially called “manufacturing-oriented free trade zones”) to attract FDI in export-oriented light industries that would bring much-needed foreign exchange for its import substitution programme, promote exports, absorb the vast educated workforce and provide access to new technologies to promote competitiveness in light manufacturing without posing any competition to domestic companies. It was clearly the complementary approach towards SEZs.

In contrast, Taiwan Province of China adopted the “development strategy reinforcing approach” to SEZs (officially termed as export processing zones, or EPZs). It placed a major focus on small and medium enterprises in the light consumer sector as part of its development strategy and leveraged EPZs to upgrade them technologically at an early stage of their development. The government adopted both reactive and proactive policy approaches to encourage linkages between EPZ firms and non-EPZ firms. As part of its reactive policy, it lowered transaction barriers between the two to encourage subcontracting and local sourcing. According to Wang (1990),

in 1988, a thousand Taiwanese firms were subcontracted by EPZ firms, to the tune of US\$392 million. Using a proactive approach, the government supported small businesses in the wider economy to help them build their productive capacities to participate in these transactions through the use of targeted credit, subsidies, and incentives packages as well as import protection (Amsden, 1989; Evans, 1995; Wade, 1990). Integration with GVCs strengthened the technological competitiveness of small and medium enterprises by giving them access to a global pool of new technologies, skills, capital and markets. Once integrated with GVCs, these enterprises moved from the assembly of imported inputs to increased local production and sourcing as original equipment manufacturers (OEMs), then to original design manufacturing (ODMs); and finally to the sale of their own branded merchandise (as OBM).

China, the third country in our analysis, traversed a distinctly different trajectory. It adopted an “SEZ-centred development approach” and placed SEZs at the centre of its cluster-based industrialisation strategy. It laid the foundation for a distinct model of SEZs with large, city-like size and openness, and an institutional structure that provided considerable economic incentives and leeway to local authorities; these provided ideal conditions for cluster development. The proximity of China to Hong Kong (China) and its strategic location, together with extremely low wages, disciplined labour, reforms in land policy and massive investment into offsite infrastructure, turned China’s SEZs into engines of remarkable growth (Zeng, 2016).

*Dynamism:* As these countries developed, they maneuvered their SEZs as well. In the Republic of Korea, where large conglomerates were at the centre of the growth process, SEZs had been marginalised by the late 1980s. In the aftermath of the East Asian crisis, when the country initiated the process of restructuring the economy and targeted the development of the logistics industry to position itself as a logistics hub in the region, it leveraged SEZs to reinforce this strategy. It upgraded its manufacturing zones with logistics facilities (Aggarwal, 2012b) and set up new logistics-oriented free trade zones. Between 2008 and 2010, both types of SEZs generated US\$8.3 billion of imports and US\$14.6 billion of exports, and employed 13,676 people (WTO, 2012). In 2002, however, the strategy of economic restructuring and balanced regional development placed SEZs at the centre, and the country transitioned from the enclave variety FTZs to large open SEZs, and initiated the “free economic zones” (FEZs) programme as part of its efforts to attract foreign investment, particularly in services and in ultra-high tech and R&D. FEZs are world-class cities equipped with cutting-edge infrastructure and services, and they are at the centre of the ambitious goals of the development strategy. The official website of FEZs<sup>1</sup> indicates the presence of 4,467 companies with FDI of

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<sup>1</sup> <http://fez.go.kr/global/en/index.do>. Accessed on 13 August 2019.

US\$16 billion as of 2014. By broadening the base of the economy, these zones appear to have contributed significantly to the resilience of the Korean economy to crises (SaKong and Koh, 2010).

Like the Republic of Korea, Taiwan Province of China also maneuvered its SEZ strategy over time. However, while the former continuously upgraded the role assigned to SEZs in its development process, the latter has continued to follow the strategy of reinforcing the development strategy through SEZs. Taiwan's industrial structure underwent several transformations during the process of development (Wade, 2003; Smith, 1997); along with that process it upgraded its EPZs as incubators of new industries. In the late 1970s, to align with economic restructuring in the rest of the economy, EPZs were upgraded to attract capital-intensive activities; in the late 1980s, to high-tech industries; and in the late 1990s, to the logistics industry. The availability of domestic capabilities made it possible for zone enterprises to establish linkages with domestic producers and further augment their capabilities. This helped in developing a two-way relationship between EPZ and non-EPZ firms. EPZ investors have become important customers for Taiwanese companies outside the zones. In 2015, domestic inputs shipped into the Kaohsiung zone equaled 48 per cent of the zones' total export value (Crook, 2016). Despite the fact that the administrative regime has been simplified in the wider economy, EPZs still enjoy immunity from institutional rigidities in the labour market and the FDI regime. Currently, Taiwan Province of China has 10 EPZs and six logistics-oriented free trade zones. These zones are clustered together to form two growth poles, in Kaohsiung and in Taichung, which are reinforced by science parks and industrial parks of various types to act as the force driving their dynamism.

Encouraged by the initial success of SEZs, China launched a massive drive to create a myriad of smaller zones near existing zones, industrially developed locations, and existing clusters to generate synergies between them and promote a critical amount of economic activity. Numerous industrial clusters were created to complement the growth of SEZs. Synergies were created between the SEZs and regional economies by using appropriate policy packages and tax incentives to reap the benefits of increasing returns, external economies and complementarities. Agglomeration economies generated in the process turned the zones into industrial hubs of unprecedented magnitude. According to one estimate, by 2007, in 300 of 326 municipalities, there were 1,346 zones (Wang, 2013). The SEZ sector was also expanded vertically, by locating smaller SEZs within the larger ones to augment them further so that the benefits could also flow within the SEZs. In addition, the government played a catalytic role by promoting a network of R&D facilities and higher education institutions and creating conditions for private entrepreneurship to thrive. Clustering of industries facilitated further entrants and investment by both foreign and domestic investors (Wang, 2013).

China thus succeeded in transforming its SEZs into growth poles. The 11 city clusters formed by SEZs and industrial clusters, each of unprecedented size, collectively accounted for one-third of the population and two-thirds of economic output in 2015 (Bertaud, 2016). According to the official statistics, the Yangtze economic area alone accounted for 46 per cent of total exports in 2014 (GOC, 2015). Over time, increasing economic disparities at the regional level within China have led the government to develop strategies with a strong spatial focus. The government made SEZs the centrepiece of balanced regional development strategies. Since 2010, China has set up 135 additional economic and technological development zones across the country, with 77 of them located in inner areas. These were paired with successful SEZs in the East to provide a wide range of support in their development under the dyadic support network programme. Furthermore, in the 1990s, China initiated the development of border areas by setting up economic zones in these areas, in cooperation with Myanmar, Viet Nam and the Lao People's Democratic Republic. Recent years have witnessed the synthesis of China's development strategy with growing economic diplomacy. SEZs are being used as a critical tool of the new strategy. In the mid-2000s, the government adopted a policy of "going out" to encourage Chinese companies to promote the establishment of overseas industrial and trade zones. According to the Ministry of Commerce,<sup>2</sup> in late 2017 Chinese enterprises had built 75 economic cooperation zones in 24 countries, with 3,412 enterprises operating in them and creating 209,000 jobs in the local regions. The number is likely to increase with more SEZs emerging along the Belt and Road Initiative of China. China has become a role model for the world in leveraging SEZs to drive growth.

*Implementation:* Implementing an evolutionary strategic approach could be a challenge. But, by maintaining a strong state in charge of development, these developing economies could exercise their powers for effective implementation of their development strategies and planning. Strong political backing has ensured efficient coordination between ministries and layers of government with little resistance from the public. On the economic front, all three economies offered investors a highly lucrative and comprehensive package of streamlined administrative control, generous tax incentives, preferential fees for land or facility use, reduced duties on imports, free or low-rent standard factories, flexibility in hiring and firing workers, depreciation allowances, good infrastructure, low wage rates and cheap land in order to generate a critical mass of activity within SEZs. Huge amounts of money was pumped into infrastructure, not only within SEZs but outside them, as well. In China, SEZ administrations were given the powers of provincial government, facilitating approval procedures, reducing administrative fees and enhancing the service function of government organs. They can develop

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<sup>2</sup> <http://english.mofcom.gov.cn/article/newsrelease/press/201711/20171102669163.shtml>.

their own regulations to apply in their jurisdiction. All three countries adopted sound macroeconomic policies, investing in human capital and the quality of institutions. They instituted various export-promotion policies, such as undervaluation of their foreign exchange rates, elimination of quantitative restrictions and tariffs, and regional cooperation agreements. Political and social stability also contributed to the success of their SEZs.

The experiences of these countries indicate that a well-structured development model is a prerequisite to achieve phenomenal industrial transformation using the SEZ strategy. Setting up SEZs does not mean a reduced role for the government. Rather, it means an extended development role for it, strong bureaucratic competencies and political will, with a focus on the competitiveness of the economy and continuous strengthening of its capacity.

### **3.2. Not-so-successful countries**

Many countries in South-East Asia, South Asia, Latin America, and Central and East Europe have managed to leverage SEZs to bring about economic transformation. However, such transformation is essentially driven by successful SEZ localities; the success of these localities in strengthening the productive capacity in the wider economy has remained limited. The prominent countries that qualify in this group are Cambodia, Indonesia, Malaysia, the Philippines, Thailand and Viet Nam in South-East Asia; Bangladesh, India and Sri Lanka in South Asia; Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua in Central America; the Dominican Republic, Jamaica and Panama in the Caribbean Basin; Mexico in North America; Poland in Central and East Europe; Egypt, Jordan, Morocco, Tunisia and the United Arab Emirates in the Middle East and North Africa; and Mauritius in sub-Saharan Africa. SEZs became instrumental in the emergence and growth of electronics processing (as in Costa Rica, Indonesia, Malaysia and the Philippines), the automobile industry (Mexico, Morocco, Poland, Thailand and Tunisia); the information technology industry (Ghana, India and the Philippines); and textile, apparel and other light industries (Bangladesh, Mauritius, Sri Lanka, Viet Nam, as well as countries in the Middle East and North Africa and Central American and Caribbean countries). SEZs account for a sizeable share of exports, FDI and in some cases even employment in these countries. For instance, in 2010 the electronics sector in Malaysia contributed 27 per cent of the country's manufacturing output, 49 per cent of exports and 32.5 per cent of overall employment (Rasiah et al., 2015). Economic zones in the Philippines in 2011 accounted for 73 per cent of exports and 2 per cent of employment.<sup>3</sup> In Bangladesh, eight small traditional

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<sup>3</sup> <https://business.inquirer.net/203800/special-economic-zones-boon-asia-says-adb>.

EPZs employed 283,620 workers and accounted for 20 per cent of total exports in 2016–17. In Thailand, automotive exports in 2014 made up 16 per cent of total merchandise exports and 19 per cent of total manufactured goods exports (Warr, 2017). In the Dominican Republic, SEZ exports accounted for 58 per cent of total exports in 2014–15. This share was 80 per cent in the early 2000s (World Bank, 2016). Over 2,800 Maquiladora companies operating in Mexico account for over 55 per cent of Mexico's exports and 15 per cent of manufacturing employment<sup>4</sup>. Free zone trade accounts for a third of the United Arab Emirates's non-oil economy and approximately 80 per cent of non-oil exports (OECD, 2018). The Tanger Med Zones in Morocco accounted for approximately 25 per cent of national exports in 2016 (COMCEC, 2017).

Although SEZs have contributed to the production and export structures in these economies by successfully integrating them into GVCs, their role in building productive capacities in the rest of the economy has remained marginal (see, for instance, Hausman et al., 2017; Frick et al., 2018; Heron, 2006 for Latin America; OECD, 2017 and KPMG, 2014 for Central and East Europe; Dassel et al., 2013 for the Middle East and North Africa; Manasan, 2013 for the Philippines; Rasiah et al., 2015 for Malaysia; Karunaratne and Abayasekara, 2012 for Sri Lanka). The zones fuelled economic growth in Caribbean and Central American countries during the 1990s and the early 2000s. In the 1990s primary goods accounted for more than half of total exports in goods, and by 2006 their share had fallen to one-third. But the expiry of the Multi-Fibre Agreement led to unprecedented rates of bankruptcy, capital flight and job loss in the face of strong competition in the textile and apparel industry from Asia (World Bank, 2016). Mauritius, which is normally viewed as a successful case, underwent a similar experience. South-East Asia, which has seen phenomenal growth in exports and built impressive production capabilities in SEZs in relatively high-skill sectors, could not manage to leap to high-income status. Most production at the high end is dominated by foreign multinationals, while low-end activities are performed by local companies. There is thus a question mark on the viability of this model of SEZs. What went wrong?

*Lack of integration between development planning and SEZs:* Most of these countries have set up SEZs as “industrial infrastructure” especially as a way of attracting FDI, mostly in the manufacturing sector; creating jobs; and generating exports and foreign exchange without aligning them with broader development planning. Most of these countries were early adopters of SEZs and are endowed with natural advantages in exporting, largely related to their geography and factor endowment. They managed to effectively leverage their SEZs to strengthen

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<sup>4</sup> <http://teamnafta.com/manufacturing-resources-pages/2016/4/18/nafta-and-the-maquiladora-program>.

their natural advantages and built impressive production capabilities in SEZs by keeping business costs low. In Malaysia, which is one of the most developed of the developing countries, a staggering 93.23 per cent (close to US\$6 billion) of the electronics sector investment in 2011 was foreign, originating mainly from Japan, the United States and Germany (Rasiah et al., 2015). Upgrading and spillovers are limited to Penang, which is due to a well-documented proactive approach of the regional government that integrated its SEZ development with the regional development plan. Bangladesh succeeded in becoming the second largest exporter of apparel but even after more than 50 years of SEZ experience, it still focuses on the volume-based segment of the industry. Not only that, it continues to import spinning, knitting, weaving, dyeing and other machinery worth billions of foreign exchange. The story is not very different in other countries. Apparently, in the absence of any strategic planning, there are no automatic spillovers and SEZs remain enclaves of FDI and trade.

*Lack of dynamism in SEZ approach:* Encouraged by the performance of SEZs, these countries are continuously expanding the number of SEZs with little dynamism in the approach. The underlying objective is to create these zones in newer areas, newer sectors and with more innovative features, to attract FDI. Thus the number of zones continues to increase unrelated to the development process outside the economy. The government of Bangladesh, for instance, has set a target to build 100 economic zones under public-private arrangement by 2030. Sri Lanka has announced four new zones with a budgetary allocation of Rs. 2.5 billion.<sup>5</sup> Viet Nam has set up more than 300 zones and is now planning to set up large comprehensive SEZs with attractive incentives. So are other countries in the region: Indonesia, the Lao People's Democratic Republic, Malaysia, the Philippines and Thailand. In the absence of dynamism in the zones, mature economies are now competing with emerging low-cost destinations to maintain their competitive advantages in low-end activities. Evidence suggests that in Malaysia EPZ firms have successfully lobbied to keep the market open for migrant workers (Rasiah et al., 2015; Henderson and Phillips, 2007; SOMO, 2013), to keep it artificially attractive to low-value operations. Similar patterns are observed in Latin America. The number of industrial parks in the Dominican Republic, which stood at 60 in 2014 has grown to 74 over the past 5 years<sup>6</sup>. Furthermore, most Latin American countries have plans to expand their SEZs over the next few years (Mitchell, 2017). Many of these countries are resorting to competitive currency devaluations to continue to attract multinational corporations. There is thus an intensification of regional competition to attract FDI in the zones. In Central and East Europe, Poland initially established SEZs for periods of 20 years. Since then it has extended the programme continuously to keep its

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<sup>5</sup> <http://www.ft.lk/front-page/Govt--steams-ahead-to-boost-exports--FDIs/44-670322>.

<sup>6</sup> <https://www.state.gov/reports/2019-investment-climate-statements/dominican-republic/>

SEZs alive. Recently, a new law has extended the SEZ benefits to all of Poland's surface area. Other major economies in the region have adopted similar measures to attract FDI. But the development impacts on the wider economy have been marginal.

*Implementation:* Effective implementation is the key factor that explains why these countries succeeded with SEZs. Many would attribute it to the best practices followed by these countries in designing, developing and operating their SEZs. Indeed, the SEZs have met foreign investors' expectations and proven to be ideal destinations for keeping costs low. However, a host of other factors that are often overlooked also explain the effective implementation of SEZs in these countries: for instance, political support, political stability, successful management of macro policies, pro-trade exchange rates and trade policies, participation in regional trading agreements, successful promotion of SEZs and so on and so forth. Further, with few exceptions, most of these economies were early movers and faced little competition. Very importantly, however, they have been able to leverage their geographical and factor endowments to promote SEZs. These countries compare fairly well with most other developing countries in terms of their locations on international trade routes to serve a sizeable regional and international market; direct access to the sea; their proximity to core developed markets in each region; preferential access offered by the large countries; and an abundance of both labour supply and human skills. In Central America, the Caribbean countries and Mexico benefitted from their proximity to the United States and various programmes and agreements on duty-free access to the United States market for most goods; the Middle East and North Africa benefitted from its proximity to European markets; and North and South-East Asia reap the benefits of Japanese investment. And as noted above, abundant supplies of labour and human skills complemented their geographic endowments.

Most of these countries embraced SEZs and leveraged them to exploit natural advantages to drive economic development in the initial phases. However, in the absence of a strategic approach to integrate SEZs into overall development planning and upgrading, they continued to remain enclaves of FDI, generating foreign exchange and employment. Such countries are essentially weak developmental states that have failed to make the hard decisions necessary to upgrade the wider economy. Lack of political will affects bureaucratic motivation as well. They are thus trapped in the low end of GVCs and continue to compete with lesser developed countries in this segment.

### **3.3. Least successful countries**

Countries in sub-Saharan Africa and Central Asia are relative latecomers to economic zones. Kenya, Liberia and Mauritius took the lead to set up SEZs in

the 1970s. However, Mauritius alone succeeded; SEZs in the other two countries were dormant. In the post-1990 period, Africa witnessed a mushrooming of SEZs. Currently 43 of 54 African countries have passed SEZ legislation. Central Asian economies embraced the policy in the post-2000 period. Currently, all five of them have an SEZ regime in place. Empirical evidence suggests that SEZs in these regions have, by and large, been unsuccessful even in attracting investment. Although most literature focuses on Africa, the evidence from Central Asia is no different (ADB, 2018).

What explains these failures? One argument could be that investment is impeded by structural factors in these economies. Most of these economies are endowed with natural resources which together with heavy foreign aid flows have created a “resource curse”-like situation. These countries thus lose competitiveness in tradable sectors, other than the primary sector, due to relatively high foreign exchange rates and high wages. Further, many countries in these regions are landlocked, a condition that adds to the costs of logistics and trade. SEZs are typically seen as compensating for an overall lack of competitiveness by offering extended tax holidays, subsidised real estate, utilities and direct financial incentives to individual investors to attract investment. However, the available evidence indicates that the incentive package cannot compensate for lack of competitiveness. Investor flight from SEZs in Latin American and African countries on the expiry of the Multi-Fibre Arrangement is a case in point.

Although the structural impediments cannot be underestimated, they can be overcome. Egypt, Jordan, Morocco, Tunisia and the United Arab Emirates have all managed to generate substantial gains from their SEZs. Even sub-Saharan countries – Ethiopia, Ghana and Kenya – have shown dynamism in their SEZs. The SEZ failures may thus additionally be explained by bureaucratic failures to appropriately address the multiple challenges of SEZ establishment. A number of factors to which the underperformance of SEZs has been attributed pertain to the poor investment climate within and outside SEZs, including weak industrial, transport and communication infrastructure; poor planning and management; excessive regulation; rent seeking; unsuitable locations; low-productivity labour supplies; and a lack of an industrial culture (ADB, 2018; Zeng, 2012; Farole, 2011). These are clear manifestations of bureaucratic failures and the lack of technical, sociopolitical and economic management skills and motivations. At the root of this lies the predatory nature of these states. Many of these countries are resource-rich and have autocratic governments that exercise unconstrained political authority through “extensive networks of personal patronage that include inefficient bureaucracies staffed with officials selected for their political loyalties rather than for their technical qualifications” (Reno, 2015:731). The fact that many of these countries are high on the fragility index due to ethnic violence, political instability and rampant corruption bears testament to the predatory nature of the state. SEZs

in these countries may thus be a tool to enhance the political power and wealth through patronage, rather than to bring about economic transformation.

#### **4. Conclusion**

SEZs have long been characterised by ideological debates and political sensitivities. Their economic benefits relative to their costs are under deep scrutiny. Their development role is not appreciated owing to the limited evidence of SEZ-induced development.

This study revisits the SEZ experience of successful, not-so-successful and least successful countries across the globe within the three-pillared “integrated institutional framework” that is proposed here and reveals that SEZ-induced economic development is positively related with the developmental role of the state. A strong developmental state with leadership that can energise and motivate bureaucracies to achieve the broader development goals is a prerequisite for SEZ-led economic transformation. Weak developmental states can drive investment and trade and generate employment by effectively implementing their SEZs. However, in the absence of any strategic intervention, they continue to sustain their cost advantages at the low end of activities. A serious risk with this strategy in these countries, is that it can delay industrialisation in an economy by diverting resources and the attention of policymakers away from upgrading domestic capabilities and toward expanding SEZs. Under predatory systems of governance, SEZs may simply be used as a rent-seeking tool to extend political influences and loyalties or even laundering money rather than promoting productive capacities. There is thus a need to have a fresh look at the viability of SEZs as engines of economic transformation.

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# Change and continuity in special economic zones: a reassessment and lessons from China

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Special economic zones (SEZs) have been used as an important national development instrument around the world for the past several decades. While SEZs have continued to grow, they vary considerably across developing countries in form, function and effectiveness. This wide variation challenges development scholars and policymakers to probe factors that render some SEZs more successful than others and at certain stages of development than at others, and, second, allow some SEZs to sustain their success while triggering others to fail or become obsolete. China stands out not only in having created the largest number and variety of SEZs but also in building some SEZs in other developing countries. With this exceptional combination of inside and outside experience with SEZs, China presents a timely opportunity for reassessing the new global landscape of SEZs. This paper traces the evolution of SEZ development in China and draws out policy lessons.

**Keywords:** Special economic zones, change and continuity, China, experiment and innovation, policy mobility, lessons from China

## 1. Introduction

Special economic zones (SEZs) have become a national development strategy globally over time. While *The Economist* (4 April 2015) dated the first free-trade zone (FTZ) to ancient Phoenicia about 3,000 years ago, Easterling (2012) traced it

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to the Roman port of Delos in the Aegean Sea, which flourished in the first century B.C. From the Hanseatic League during the 13<sup>th</sup> to 17<sup>th</sup> centuries, we could fast-forward to find the first modern zone, created at Shannon airport in Ireland in 1959. This was followed by the Republic of Korea and Taiwan province of China using export processing zones (EPZs) in the 1960s and early 1970s to jump-start their export-oriented industrialization. China raised the SEZ approach to development to a new level in 1980 when it established four SEZs (Shenzhen, Zhuhai, Shantou, Xiamen) along its southeast coast which were much larger than the earlier EPZs and sited in or near existing cities. As SEZs grew in number, they expanded in size, and diversified and differentiated in function, again led by China. This led me to construct a spatio-temporal typology of SEZs (Chen, 1995) that I update and enrich in this paper.

From an estimated 500 in 1995, the number of SEZs has risen to 5,400 zones operating in 147 countries (UNCTAD, 2019). Given the large numbers and varied types of SEZs, their success varies widely. China is a global leader in SEZ development having operated the largest number and most varied types of SEZs with overall success. By comparison, SEZs in India and Africa have generally not done very well, for a variety of reasons such as shorter histories, insufficient incentives, weak infrastructure connections, excessive bureaucracy, and resistance to land acquisition (ADB, 2015; *The Economist*, 2015; UNDP, 2015). Timing of establishment and governance structure loom among other determining or facilitating factors that shape the differential performance of SEZs.

In this paper, I first trace the evolution and differentiation of SEZs into both distinctive and overlapped types over the past four decades, showing the changes and constancies that marked SEZs and exploring their role in fostering development. Second, I focus on China as a global leader in creating the world's largest number of SEZs and in diversifying its SEZs domestically and extending them internationally. Next I turn to the important factors shaping the earlier and continued success of some Chinese SEZs, especially in Shenzhen. Finally, I look at a new stage of SEZ development in China, which has set up special cooperative zones in other developing countries and cross-border zones spanning its neighbouring countries. Each of the sections draw lessons from China for developing countries, which are synthesized in the last section, highlighting China's role in shaping global SEZ development.

## **2. SEZs' evolution, differentiation and multiplication**

In its long and checkered history, the SEZ in its generic form has evolved into more diverse forms and functions. However, three primary forms and functions have persisted through SEZs' evolution: the FTZ, the subsequent EPZ focused

on manufacturing, and the more recent service-oriented zones. This continuity is expected as these three forms and functions mirror the three main stages of economic development that have unfolded across most countries, from agriculture to manufacturing and then to services. The early FTZs, almost always located at or near seaports and focused on limited international trade with domestic economies, stimulated initial industrialization that led to more trade through FTZs. Since about 1960, EPZs have sparked and accelerated large-scale and export-oriented manufacturing, especially in East Asia but also beyond, further expanding international trade. The uneven transition toward services has created varied services-oriented zones, which retain, but extend far beyond, the original singular function in trade or the manufacturing-trade nexus. This sequential and partially recursive logic in trade-service linkages undergirds the structural transformation of most national economies and thus marks the continued relevance of SEZs today.

This account of SEZs, while meaningful in an evolutionary sense, is not sufficiently global and dynamic. Two powerful trends call for an updated look at SEZs from a global perspective that goes beyond domestic economic conditions as the primary enabler of zone development. One is the shift of the global manufacturing landscape from the higher-cost center of East Asia to cheaper locations elsewhere. This is accompanied by (1) the increasingly simultaneous dispersal and integration of global production networks and supply chains, and (2) the uneven concentration of more advanced and innovative manufacturing in high- and new-tech industries. The second trend, fuelled by the first, features the rise and fall of cities and regions that either succeed or fail in developing locally niched competitive strengths and strategically beneficial global connections. The latter trend has created a more diverse and fragmented field of winners and losers in both traditional and advanced manufacturing and services, as well as their new intersections. It reinforces an already saturated and increasingly uneven geographical distribution of successful or not so successful SEZs. This is a fundamental challenge facing any new players entering this crowded arena.

To understand the evolution of SEZs in their changing national and global contexts, I differentiate SEZs in terms of development stages, and by extension, of time periods (table 1). Although there were as many as 66 labels for types of SEZs at the beginning of the 21<sup>st</sup> century (cf. Easterling, 2012), table 1 uses three designations to emphasize functionality as the primary marker of differentiation (Vats et al., 2018). This paper adds a fourth type to capture a most recent variant with a strong connection to China (column 1). Across the table, the evolution of SEZs through three stages corresponds to three time periods.

Of the three plus one types, free manufacturing zones (FMZs) have experienced the most distinctive stages. For example, the EPZs set up in the 1960s in the Republic of Korea and Taiwan province of China, and the SEZs in 1980 in China

**Table 1. The Evolution and Differentiation of SEZs: A Typological Framework**

Zone type by stage and time	Stage I 1980s	Stage II 1990s-2000s	Stage III 2010s
1. Free Manufacturing Zones (FMZs) <ul style="list-style-type: none"> <li>• Masan EPZ (Rep. of Korea)</li> <li>• Kaohsiung EPZ (Taiwan province of China)</li> </ul>	<b>Takeoff</b> <ul style="list-style-type: none"> <li>• Enclave-like</li> <li>• Labour-intensive</li> <li>• Export-oriented</li> <li>• Incentive-heavy</li> <li>• Experimental and catalytic</li> <li>• Narrower focus</li> </ul>	<b>Upgrading</b> <ul style="list-style-type: none"> <li>• Extra-zone spillover</li> <li>• Capital-intensive</li> <li>• Balanced export-import</li> <li>• Broader incentives</li> <li>• Spread effect</li> <li>• Diversification</li> </ul>	<b>Innovating</b> <ul style="list-style-type: none"> <li>• Within-zone refocus</li> <li>• Knowledge-intensive</li> <li>• Domestic-oriented</li> <li>• Upgraded incentives</li> <li>• Clustering effect</li> <li>• Integration</li> </ul>
2. Free Service Zones (FSZs)	<b>Limited</b> <ul style="list-style-type: none"> <li>• Trade</li> <li>• Warehousing</li> <li>• Shipping</li> </ul>	<b>Expanding</b> <ul style="list-style-type: none"> <li>• Finance</li> <li>• Back office</li> <li>• Real estate</li> </ul>	<b>Dominant</b> <ul style="list-style-type: none"> <li>• Finance</li> <li>• Logistics</li> <li>• Other professional services like engineering design</li> </ul>
3. Sector-Specific Zones (SSZs)	<b>Rare</b> <ul style="list-style-type: none"> <li>• Trade</li> <li>• Shipping</li> </ul>	<b>Growing</b> <ul style="list-style-type: none"> <li>• High-tech industry</li> <li>• Call center</li> </ul>	<b>Emerging and Future-Oriented</b> <ul style="list-style-type: none"> <li>• R&amp;D labs</li> <li>• Digital media</li> <li>• Tourism</li> </ul>
4. Transnational (cross-border) and Extraterritorial (enclave) Zones (ETZs)	<b>Beginning</b> <ul style="list-style-type: none"> <li>• Maquiladoras (United States–Mexico border)</li> </ul>	<b>Growing</b> <ul style="list-style-type: none"> <li>• Growth triangles (ASEAN)</li> <li>• China–Kazakh border cooperation center</li> </ul>	<b>Multiplying</b> <ul style="list-style-type: none"> <li>• Forest City (China-built in Malaysia)</li> <li>• SEZs in Africa and Middle East (China-built)</li> <li>• Boten SEZ in Lao People's Democratic Republic (China-built)</li> </ul>

Source: Author.

defined the dominant manufacturing focus and function of SEZs through the 1980s and beyond. This temporal shift is marked by industrial upgrading from the takeoff of labour-intensive and export-oriented manufacturing to knowledge-intensive innovative manufacturing. Since hosting much earlier services such as warehousing for duty-free goods in FTZs, free service zones (FSZs) have diversified over time into broader coverage of more modern and high-end services such as logistics. While overlapping somewhat with FSZs, sector-specific zones (SSZs) have a shorter history and feature more specialized economic functions and activities that

increasingly herald the future. In terms of temporal development, the cross-border and extraterritorial SEZs are the newest type, of the largest geographic scope, and truly border-intensive and transnational in function and governance (see two illustrative cases later).

Table 1 offers a most recent view of the general evolutionary direction of SEZs (from left to right) by identifying and specifying the intersections between the functional differentiation and specialization of SEZs and their change over time. By doing so, this table also aims to remap SEZs as subnational units of and for development, as well as their temporal varied positions and roles, onto the development ladder of climbing or sliding national economies based on shifting comparative advantages.

## 2.1. Past and present comparative advantages

The EPZs of the Republic of Korea and Taiwan province of China were established at an opportune time when the comparative advantages of these economies and the international division of labour converged into a mutually beneficial association. With a combination of cheap labour, lack of raw materials and small domestic markets, the Republic of Korea and Taiwan province of China were ideal locations for labour-intensive and export-oriented manufacturing. Externally, Western and Japanese multinational corporations (MNCs), facing rising production costs at home, began to relocate their manufacturing facilities to attractive overseas destinations. In a similar way throughout the 1980s, China's SEZs benefited from the coexistence of even cheaper factors of production and greater surplus capital from both the rapidly industrializing economies of both West and East Asia including the Republic of Korea and Taiwan province of China, with Hong Kong (China) being the largest external investor during Shenzhen's first stage of development.

By stage II of SEZ evolution (table 1), the East Asian intraregional and global comparative advantages had shifted again, which reshuffled countries on the development ladder. Having served their initial trigger role, the EPZs were no longer competitive and effectively disappeared into the national economies of the Republic of Korea and Taiwan province of China, which moved into high-tech manufacturing in response to their rising labour costs and highly educated workforces. The SEZs, especially Shenzhen, entered and then accelerated the process of industrial upgrading in response to pressure similar to that experienced by the two smaller economies earlier. During this stage, China's SEZs dropped the most salient attribute of the earlier EPZs, as narrow manufacturing enclaves. Instead, they became more open cities with growing regional and global economic connections. The first decade of the 21<sup>st</sup> century ushered in a new stage of manufacturing-based SEZs exemplified by Shenzhen, which also became a global center of innovative high- and new-tech manufacturing with a heavy concentration of research and development (R&D) activities (Chen and Ogan, 2016; Nylander, 2017). Unlike

the Korean and Taiwanese EPZs, Shenzhen's rapid industrial upgrading as a dynamic FMZ has created a key node for China's broader effort to move up the development ladder and forward along global value chains (GVCs), marking the crucial connection that can and should develop between a favourable entry into GVCs and subsequent and sustained development (Gereffi, 2018).

## **2.2. Obsolete and adaptive incentives**

The baseline financial incentives for the early EPZs and China's SEZs during stage I were very generous and needed to be so. They mattered much more in attracting initial investors and laying the foundation for sustained manufacturing relative to other requirements, even though some investors would leave, either as incentives expired or as they could not turn a profit despite the incentives. During stages II and III, the EPZs' incentives were no longer relevant. Shenzhen demonstrated the flexible and targeted reinforcement of incentives to encourage industrial upgrading and discourage labour-intensive and polluting industries (stage II). Shenzhen replaced most of the earlier fiscal incentives with heavy state subsidies to attract R&D labs. In sum, baseline fiscal incentives can become obsolete as national economies become more open and better equipped with connected infrastructure (Vats et al., 2018). More importantly, research has shown that institutions such as legal and regulatory frameworks and procedures are more important than fiscal incentives in the long run (ADB, 2015).

## **2.3. Institutional factors**

As table 1 also indicates, there was an experimental or testing dimension to the earlier manufacturing-based EPZs in East Asia and the SEZs in China, albeit much more for the latter. They were geographical containers for trying out "good" institutions such as market activities and property rights when other national economies were not ready and were vulnerable to experimental failures. Led by the so-called "developmental state", the Korean and Taiwanese governments used EPZs to bypass or overcome such prevailing institutional problems as the lack of transparent laws and inefficient resource allocation (ADB, 2015). This experimental function was more important for China's SEZs, which had to trial-run a variety of historically unprecedented institutional reforms, such as enacting investment laws and contractual employment, that were forbidden by the centrally planned economic system. While the Republic of Korea and Taiwan province of China no longer needed their EPZs for this function as they became market democracies in the 1980s, Shenzhen continued to pioneer broader and deeper institutional reforms for China during its socialist transition (Chen and de'Medici, 2012).

## 2.4. Mutating towards general convergence and Chinese distinction

The above points stemming from table 1 convey a simultaneous mutation of SEZs toward both some convergence across the zonal types over time and a persistently distinctive Chinese mode of SEZ development typified by Shenzhen. On the side of general convergence, SSZs in table 1 can actually host either low- or high-end services ranging from tourism to financial services. Depending on development needs for national or regional economies, FSZs and SSZs may be functionally more overlapped than either with FMZs. An SSZ with a clustering of R&D labs may be more justified than congregating a group of real estate firms. Geographical proximity, which facilitates face-to-face contact, is a key to fostering the exchange of ideas and knowledge flows that lead to innovation. Silicon Valley is a good example. Locating an R&D-centric SSZ near an FMZ can create short and quick reciprocal loops between advanced manufacturing and R&D.

Although China has contributed to the overlap between the first three types of SEZs, it endowed its SEZs, especially Shenzhen, with distinctive goals and functions for experimenting with bold reforms in its centrally planned economy and rigid governance system. This Chinese distinction goes much beyond the broad similarity and comparability in exploring comparative advantages by using SEZs as a development instrument. In light of how the initial successful reforms in Shenzhen have sparked similar ones in other Chinese cities over time, this beneficial effect of spatial policy mobility distinguishes China's approach to SEZs beyond the conventional use of SEZs for climbing the development ladder.

Furthermore, China stands apart from most other countries with SEZs by developing the fourth type as a new model of SEZ that crosses national boundaries. The China-built SEZs in Asia and Africa often feature a partnership between the Chinese government, often through a state- or privately-owned Chinese company, and a foreign sovereign government. Although these zones focus on labour-intensive manufacturing that may imitate or even replicate the basic functions of China's own SEZs in the 1980s, their actual performance is subject to strong Chinese influence through generally asymmetrical power relations (see details later). In the general evolution of SEZs, China is an inherent part of its logic and process, exhibiting some shared features of other SEZs. Deviating from this evolution, however, China has also charted its own path of developing and diversifying SEZs. Between this linked dual track, China's SEZs have experienced both the slow and incremental aspects of evolutionary transformation (implied by table 1) and the dynamic and potentially disruptive aspects of critical transformation (see table 2 and sections 4 and 5), which constitute two definitional elements of a new conceptual framework for understanding development (Henderson and Jepson, 2018).

### **3. Sectoral focus for SEZ development: lesson one from China**

Given the distinctive attributes of China's SEZs, I examine them more closely in turn to draw multiple lessons that may extend beyond the Chinese context. Since key sectors or anchor industries are the main drivers of SEZ success, I start by looking at how this process has worked in and for China. The initial tenants of any SEZ lay the foundation for its subsequent growth and performance. They benefit from the most generous financial incentives, which are usually offered at the outset and adjusted later, as first-mover advantages (such as new publicity and growth momentum) fade. The analysis below leads to the first lesson from the Chinese experience with SEZs.

#### **3.1. Baseline and other incentives and initial investments**

Using Shenzhen as the primary case, I elaborate on the relationship between baseline incentives and initial investments at the early stage of its development. Although the special incentives offered by Shenzhen were designed to attract the first wave of foreign investment into China, China envisioned and intended Shenzhen and the other three SEZs to serve more lofty goals as its window to the world, and as a pioneer and experiment for trying capitalist principles and market activities in a controlled spatial "container" located far away from the political center.

The baseline incentives for China's first four SEZs were granted exclusively to them. They were indeed extra generous in light of China's planned and closed economy at the time. In return, the Chinese government expected the SEZs to play a significant role in achieving the larger economic goals of (1) expanding foreign trade; (2) attracting technology and management expertise as part of capital investment; (3) increasing employment; (4) accelerating economic growth to lure domestic investors and stimulating regional development; and (5) generating more land leases, transfers and rents. (The last one is particularly pertinent to understanding other Chinese SEZs later.) These goals were only partially achieved during the SEZs' first stage of development. The bulk of early inward investments came across the border from Hong Kong (China), from its labour-intensive, export-oriented and footloose manufacturing industries such as garments, shoes, household electric goods and simple consumer electronics.

Generous financial incentives aside, the high priority of institutional and monetary support from the Chinese central, provincial and municipal governments enhanced Shenzhen's investment environment further. The government at different levels sank the bulk of the capital to build up the physical infrastructure, primarily the industrial parks. In 1979, combined investments through central government allocation, ministries and Guangdong province accounted for 72.3 per cent of all construction capital. The share of state investment declined to 10.4 per cent in 1984. Investment

by the Shenzhen government itself rose from 16.7 per cent in 1979 to 70.4 per cent in 1984, although most of the money came from bank credits essentially controlled by the central government (Chen, 1987).

The baseline incentives coupled with government investment in infrastructure worked quickly, while surplus capital in Hong Kong was ready and primed to move across the border. By March 1981, total foreign investment in Shenzhen had grown to \$400 million, far exceeding any other single locale in China. From 1983 to 1985, foreign direct investment (FDI) in Shenzhen rose about 75 per cent annually. By the mid-1980s, more than 52 per cent of all the equity joint ventures in China were located in Shenzhen and the three other SEZs. The four zones accounted for 34.6 per cent of the total pledged foreign investment in such projects, with Shenzhen getting the lion's share. From 1986 to 1993, Hong Kong (China) accounted for 66 per cent of the overall FDI in Shenzhen and 64.2 per cent of the cumulative foreign investment (Chen and de'Medici, 2010).

From a comparative perspective, during the first three years of its operation, Kaohsiung EPZ in Taiwan province of China attracted only \$26 million in foreign investment, but it accounted for approximately 30 per cent of the economy's total FDI during that period. In the first three to four years, although the Masan EPZ's cumulative foreign investment did not exceed \$200 million, it accounted for 22.3 per cent of total FDI in the Republic of Korea during 1972-1976 (Chen, 1994). Shenzhen did much better than either Kaohsiung or Masan in terms of the absolute amount of foreign investment attracted during its first few years, even though it performed less well in absorbing the national share of foreign investment, due to Shenzhen's capacity relative to China's much larger scale and pent-up demand for overseas investment.

### **3.2. Key factors in Chinese SEZs' success**

China's SEZs benefited from a combination of favourable factors that do not exist and cannot be replicated as a set in other contexts, but these factors offer some broader comparative implications and lessons. They point to other factors that matter differentially to the original and subsequent types and stages of China's SEZs.

#### ***a. Area***

As the largest of the four original SEZs, Shenzhen reaped particular benefits from having much more land for its earlier development from the base of a small fishing village (Chen and de'Medici, 2012). Besides offering more space for hosting the concentration of labour-intensive and export-oriented factories, its larger area also meant a much bigger ratio of the new system to the old one and smaller resistance

from the old. The lack of existing infrastructure obviated the need to maintain or rebuild the old system. It also allowed Shenzhen to design a new template for planned development and effective governance for becoming a more diverse and integrated new city. In contrast, Shantou and Xiamen SEZs, with much smaller initial areas, were quickly filled up with initial investors from Hong Kong (China), some of whom were just as happy finding a home in Shenzhen. More importantly, their smaller sizes made it difficult for the other three SEZs to strike out with new and innovative strategies and practices beyond the constraints of the existing and well-established larger cities. From its original 372 square kilometers in bounded area to about 2,000 square kilometers in municipal territory today, Shenzhen is the only known case of a very large and sparsely populated SEZ turned into a dense megacity. It set an earlier and delayed precedent for a new breed of SEZs that have been built up as sizeable and multi-functional cities today, involving China as the primary driver and actor (see section 5).

### ***b. Choosing the right focus***

Shenzhen's sectoral focus on labour-intensive manufacturing was not necessarily strategic and forward-looking at the beginning. Yet it made much economic sense for Shenzhen to do what it did during its early years, given China's overall comparative advantages in very low land and labour costs. We may even call it success by default, not by design. In comparison, Zhuhai SEZ, on the border with Macau, did not do what Shenzhen did. On the contrary, Zhuhai looked at simple processing-based manufacturing less favourably and failed to attract much of it, which was also related to the much weaker industrial base in Macao (China), as a gambling center. Instead Zhuhai SEZ favoured a development plan of investing in big infrastructure such as its port and airport. As a result, Zhuhai missed the great opportunity for profiting from the cross-border relocation of labour-intensive manufacturing investment from Hong Kong (China), and less so from Macao (China), during the 1980s. It paid a price for not building up a sufficiently strong manufacturing foundation from the 1980s through the 1990s.

### ***c. Institution and inclusion***

Finally, bolder institutional reform put Shenzhen ahead of the other three SEZs, especially during the 1980s. Shenzhen led the SEZs, and the rest of China for that matter, in specifying and protecting property rights through the law. The establishment in 1990 of one of China's only two stock exchanges in Shenzhen (the other one is in Shanghai) further solidified the marketization of property rights. This strengthened the SEZ's openness and transparency for both international and domestic investors. To prove the importance of this factor from the negative side, the Indian state of Maharashtra lost developers in 61 of its 139 approved SEZs

due to capricious policymaking, a murky screening process and concern over economic prospects (*The Economist*, 2015).

Shenzhen's institutional reforms also translated into a more efficient and flexible policy for attracting human talent. During the 1980s, Shenzhen's personnel officials would bring the letters of introduction, job descriptions and employment contracts with them when they travelled to recruit in the interior. They could finalize the labour contracts in the places of recruitment upon mutual agreement and then begin the process of relocating these new hires. As China's first zone/city for introducing contractual employment by also offering higher salaries and benefits, Shenzhen benefited considerably from new human resources to offset the shortage of an indigenous talent pool. This not only earned Shenzhen notice as "China's largest and most tolerant city for immigrants" (Chen and de'Medici, 2012), but also laid the foundation for its transition to a high-tech and advanced service economy from the early 1990s.

#### **4. SEZ diversification: lesson two from China**

SEZs in China have evolved and diversified over the last four decades. While Shenzhen is the single most successful zone, it is not representative of the different types of other zones and their times of establishment and development. By constructing a broad typological overview, I intend to illustrate how SEZ development in China has unfolded temporally and diversified functionally.

As table 2 shows, China's SEZs have stayed both constant and diversified in four main types through four decades. The first two types of zones started in the 1980s a few years apart, with the economic and technological development zones (ETDZs) launched in 1984. All the early ETDZs built by the 14 established coastal industrial cities were sited some distance away from the central cities as greenfield development projects. In this sense, they were similar to Shenzhen in that the new location and construction would keep the zones less connected and thus influenced by the old system. While both the SEZs and ETDZs experienced their transitions through industrial upgrading, China unleashed a wave of high- and new-technology zones (HNTZs) across much of the national economic space starting around 2000, although an earlier variation called high-tech industrial development zone started in the 1990s. The fourth type, heralding a new phase of China's SEZ development that reflects its more open economy, appeared with the official unveiling of the Belt and Road Initiative in 2013 (see below).

**Table 2. Types of China’s SEZs by Time Periods**

Type of zone by time period	1980s	1990s	2000s	2010s
1. Special Economic Zones (SEZs)	<ul style="list-style-type: none"> <li>• Shenzhen</li> <li>• Zhuhai</li> <li>• Shantou</li> <li>• Xiamen</li> <li>• Hainan (province)</li> </ul>	Industrial upgrading began	Uneven success in upgrading	Uneven success in upgrading <ul style="list-style-type: none"> <li>• Kashgar</li> <li>• Horgos</li> </ul>
2. Economic & Technological Development Zones (ETDZs)	14 coastal cities including: <ul style="list-style-type: none"> <li>• Shanghai</li> <li>• Ningbo</li> <li>• Nantong</li> <li>• Others</li> </ul>	Began industrial upgrading	Transition and diversification to high-tech manufacturing and service	Fully institutionalized and stable
3. High- and New-Technology Zones (HNTZs); Border SEZs		Special zones spread to coastal, central and western border regions <ul style="list-style-type: none"> <li>• Ruili</li> <li>• Mohan (Yunnan)</li> </ul>	Growing and spreading nationally	Uneven success
4. New Free Trade Zones (FTZs) and Overseas Economic and Commercial Cooperation Zones (OECCZs)		Growing gap between coastal and inland/border regions	“Go West” and “Go Global” policies began <ul style="list-style-type: none"> <li>• China-built SEZs in Africa</li> </ul>	Belt & Road Initiative (BRI) launched <ul style="list-style-type: none"> <li>• Shanghai FTZ</li> <li>• Forest City, Johor, Malaysia</li> <li>• China–Laos (Mohan–Boten) Economic Cooperation Zone (ECZ)</li> </ul>

Source: Author.

### 4.1. New incentives for new industries in Shenzhen

After Deng Xiaoping’s visit to Shenzhen in 1992 confirmed the continuation of China’s SEZ policy, Shenzhen entered a new stage of development characterized increasingly by capital- and technology-intensive manufacturing in response to rising land and labour costs and worsening environmental degradation. The focus during this stage was eventually labelled as Shenzhen becoming three centers for high- and new-tech manufacturing, finance services and logistics. In 2003, a cultural industry focus was added. In 2009, Shenzhen added a fifth focus on becoming an international innovation center. Shenzhen and Hong Kong also began

to discuss developing a new area for advanced services and another focal area for international finance. It is timely to note that the successful Shenzhen model has recently been extended and transferred to China's far western border region where the cities of Kashgar and Horgos (table 2) in Xinjiang, bordering South and Central Asia, were designated as state-level SEZs, bringing the number of Chinese zones carrying the official SEZ title and status to seven.

Shenzhen exemplifies a bold and creative use of adapting incentives to advancing industrial innovation. Pushing harder on industrial innovation a few years ago, Shenzhen designed a set of very generous financial incentives for attracting R&D labs of national, provincial and municipal grades ranked by a sliding scale of importance and prestige, as well as labs set up by multinational corporations. National- and provincial-level labs, especially those certified as "excellent", would each receive financial support of up to 10 million RMB (\$1.5 million), while each municipal level lab would be granted 5 million RMB (\$750,000). Shenzhen would also provide 5 million RMB for offsetting the cost of constructing each of these labs. In addition, Shenzhen has built new R&D lab spaces that are available to new-tech firms without rent for the first two years and at a discount of half of the rent for the next three. These new incentives have fuelled the dense emergence and rapid expansion of high- and new-tech firms that have placed Shenzhen at the forefront of global industrial and technological innovation today (Chen and Ogan, 2016; Nylander, 2017).

## **4.2. Upgrading through connection, expansion and differentiation**

Successful SEZs of any kind should be connected actors, as exemplified by Shenzhen. The original ETDZs have also undergone a metamorphosis as their first-mover advantages began to erode. Given their new locations away from their associated central cities, the latter in collaboration with the former have built road – and increasingly subway – connections for better integration and cooperation. Despite starting in the middle of agricultural fields 30 years ago, the ETDZs have become parts of expanded metropolitan regions. As their original bounded areas were filled up, the ETDZs have expanded into the surrounding lands, making it possible for new investors and existing tenants to grow. This reinforces the perception of surface area as a potential barrier to SEZ success and the importance of anticipatory planning early on to store or hoard available land for later expansion. Most importantly, the ETDZs have diversified by adding new functional zones, especially for high- and new-tech industries. During my recent field research in the Nantong ETDZ near Shanghai, I was struck by the simultaneous and complementary development of two to three types of SSZs including warehouses within the ETDZ's boundary (see table 2).

### 4.3. Late upgrading and built-in limits

Most HNTZs have been built since about 2000. Despite their shorter histories than the SEZs and ETDZs, the HNTZs have become quite productive and effective, in parallel with China's overall effort to move to higher valued-added manufacturing and knowledge industries. By 2009, China had approved 54 HNTZs occupying a total area of 962 square kilometers. Although this is only 1/10,000 of China's total territory, it produced 10.4 per cent of China's total industrial output that year. Of these HNTZs, 16 produced over 20 per cent of their cities' total output, up from eight that did so in the previous year (Yu, 2011). Productive as they are, some HNTZs have run into the land bottleneck and acquired some surrounding areas without administrative approval by the higher authorities. In some cases, the areas around the originally approved HNTZs have been developed into residential and commercial zones, which has pushed up land prices. This has restricted and diluted the original purpose and focus of building high- and new-tech industries.

This process also reflects another critical factor in SEZ success – leadership. Most of the zones of various types are led by a vice mayor or Party secretary of the cities where the zones are located. These leaders tend to do quite well early on because they can leverage and utilize the autonomy granted to the zones and their new momentum, with some institutional separation from their municipal administrative anchor. Some of the leaders were innovative and led the HNTZs to varied levels of success. However, as these zones have become more integrated with their host cities through mixed-use development and inertia, some of their leaders have become more conservative and content with the status quo. The leadership factor exposes a fundamental dilemma facing China's SEZs. Since they are not special political zones and have to be governed indirectly by the larger system, they carry a strong built-in limit for sustaining their vitality.

### 4.4. Domestic pressure and overseas expansion

China's different types of SEZs have created many entry and exit points for the Chinese and global economies to be closely connected. Under pressure to further open up its economy, China initiated a fourth type of SEZ more recently (see table 2, row 4). To attempt greater financial integration with the global economy from its premier global city, China launched the Shanghai FTZ in 2013, but it has only seen limited success. It is very difficult for financial firms in the zone to act independently with China's capital controls, without having the effects spilling over to the rest of the economy. A recent survey found that three-quarters of American firms in Shanghai said the zone offered them no benefits (*The Economist*, 2015). This shows that China's larger institutional environment within which SEZs operate tends to constrain heavily regulated services such as finance more than the considerably open sector of manufacturing.

Partly pressured by its domestic overcapacity in steel, cement and the overall saturation of the construction market, China has begun to build a variety of SEZs abroad as part of the infrastructure-led development strategy under the Belt and Road Initiative (BRI). In 2014, a Chinese company started construction on Forest City, a private, gated, luxury mega-development for 700,000 people on four reclaimed islands in Malaysia's Johor state near Singapore (Moser, 2017). But this project has been halted since the second election of Prime Minister Mahathir, who is more critical and cautious about China's heavy investment in Malaysia. In the meantime, Alibaba has recently helped Malaysia launch the Digital Free Trade Zone (DFTZ), a warehousing facility close to Kuala Lumpur's international airport. The DFTZ is designed to serve as a regional logistics hub to help small and medium-sized businesses better connect to global commerce.<sup>1</sup>

These recent cases mark another phase of China's SEZ development featuring a "going global" strategy. It is a logical extension of China's cumulative strength and experience in building and running SEZs at home. China's global SEZ development provides new development opportunities for countries that are relatively new to SEZs. These countries can learn another useful lesson from China's uneven success with SEZs that may or may not transfer to other contexts.

## **5. A new model and phase of SEZs: lesson three from China**

To shed more light on this new phase of China's SEZ development with global extensions and implications, I briefly discuss a pair of cases that span and bridge the China–Southeast Asia borderlands to show two new analytical dimensions to SEZs and their potential roles in national and local economic development under some altered global conditions. The first dimension concerns the connection between or combination of private and public investments that previously tended to flow separately across borders. The other dimension is the new and broader spatial metamorphosis of the earlier geographically confined SEZ, which has increasingly taken on city-like qualities such as larger demographic scale, more expansive spatial coverage, a more diversified economy and greater spillover influence. The coupling of these two dimensions points to the co-evolution or "strategic coupling" (to borrow a short phrase from Yeung, 2016, who used it in a different context) of SEZ diversification within China and its SEZ internationalization.

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<sup>1</sup> "Malaysia and Alibaba launch regional logistics hub", *The Straits Times*, 3 November 2017; <http://www.straitstimes.com/asia/se-asia/alibaba-launches-electronic-trading-hub-in-malaysia>.

### 5.1. The China–Myanmar case

The first case is the combination of SEZs on both sides of the China–Myanmar border and its extension to a larger and longer cross-border economic corridor. Its emergence and evolution reflect the transition from stage II to stage III in table 1 and has covered the last three time periods in table 2. This case reconfigures the local, regional and transnational or trans-local geographical scales that straddle an international boundary and can add a new rung to the development ladder for more than one country. It also offers a new opportunity to examine the sectoral connection between formal and informal economic activities and the upward scaling from domestic SEZs to transnational or transboundary SEZs and the latter's development feedback loop to the former.

The local base of a multi-scaled cross-border SEZ is the city of Ruili of Yunnan province bordering Myanmar. Ruili is a small but key city for stimulating lagged economic development in China's southwestern region from about 1990 (see table 2). The starting project was Ruili's establishment of the Jiegao Border Economic Development Zone in 1991 to facilitate its border trade with the Myanmar town of Muse. Jiegao's role was further elevated when a special EPZ policy was implemented in 2000. Ruili's importance has since moved far beyond a mere border market. This bustling city with a large international population, mostly from Myanmar, has become more regionally linked to China's overall strategic plan to develop its vast western region while extending its influence across borders, and thus both the central and local governments have been building Ruili up to a regional hub. The Master Plan of the Ruili Experimental Zone approved in 2013 included 238 projects intended to boost Ruili as a gathering place and gateway for economic activities and flows with the neighbouring Southeast Asian economies. This reflects the evolution and extension of China's SEZs from the 1990s to the 2010s in response to the development initiatives of "Going West" and "Going Out" around 2000, and more recently, the Belt and Road Initiative.

On the other side of the border, the Myanmar State has responded to its Chinese counterpart through a series of SEZ-like policies to strengthen Muse's role in executing border trade with China. The Myanmar Export and Import Services set up trade offices in Muse and another border town Nantkam in the early 1990s. The Border Trade Office in Muse introduced "one-stop service" in 1995, expanded its range of services in 1996 and introduced the use of US dollars to settle transactions in 1997, instead of the Chinese renminbi and Myanmar kyat. In addition, the creation of the 150-hectare Muse Border Trade Zone allowed Myanmar merchants to freely export goods from across the country to Muse, and export licenses can be issued on the spot within one day after a formal sales contract is confirmed with Chinese buyers. Partly owing to these cumulative efforts, Myanmar's border trade at Muse rose to \$3.36 billion in 2015, from \$2.95 billion in 2014. By comparison, Myanmar's

second largest trading station of Myawaddy, on the Thai border, recorded a volume of \$411 million, up from \$211 million in 2014.<sup>2</sup>

To see the booming border trade between China and Myanmar in a tangible way, one only needs to stroll through the vibrant jade market in the Jiego SEZ in Ruili. This is where Myanmar traders such as 47-year-old Soe Paing sell raw jade – one of his country's main and valuable natural resources. His family has been in the jade trade for generations. While examining various pieces of raw jade in his shop-office, he said, "Chinese people didn't just start to like jade. They have always liked jade and used it for thousands of years." He went on, "Our business depends mainly on China, though, since other countries are not as fond of jade as the Chinese."<sup>3</sup> The scale and centrality of jade trade in Ruili struck me during my field research trip there in 2013 and again in January 2019. Jade trade, almost by itself, has helped elevate this once sleepy town to a vibrant city by attracting a large number of outside traders on both sides of the border. The physical location of the jade market, which literally straddles the border and is a stone's throw from a major border gate, has turned into an in-between space where buying and selling, with long-distance sourcing and marketing ties, defines and dominates the China–Myanmar borderland.

Along with jade, the fruit business has also flourished through designated zones of trade along the China–Myanmar border. In the recent past, Myanmar companies based in Muse would buy fruit from growers in Myittha and Mandalay and as far as Yangon. The fruit business in Muse did well, with workers from all over Myanmar making good money from about a 1,000 trucks that delivered daily. Since 2012, when Chinese traders first entered the Muse trade zone, they have slowly taken over the fruit market. "China is very prominent here and influences all the markets in Muse. Chinese businesspeople are engaged in both imports and exports, according to the owner of Khwar fruit retail shop.<sup>4</sup> Like the jade market in Ruili, the fruit market has become more favourable to Chinese traders as they have taken over the more important and powerful positions from Myanmar traders. The two markets together, in discrete geographical locations but forming crucial cross-border trade links, represent the multiplication of key zones of activities extending beyond a traditional border (Sassen, 2015).

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<sup>2</sup> "Border trade up by \$500m over last year", Mya Htwe Chan, *The Myanmar Times*, 24 November 2015; <http://www.mmimes.com/index.php/business/17774-border-trade-up-by-us-500m-over-last-year.html>.

<sup>3</sup> "China polishes Myanmar relations as West closes", Eunice Yoon, "Asia Tomorrow," a CNBC special report, *ETCNBC.com*, 15 June 2015; <http://www.cnbc.com/2015/06/15/china-polishes-myanmar-relations-as-west-closes-in.html>.

<sup>4</sup> "Chinese fruit traders extend reach into Shan State", *The Myanmar Times*, 25 November 2015; <http://www.mmimes.com/index.php/business/17625-chinese-fruit-traders-extend-reach-into-into-shan-state.html>.

In addition to border trade through SEZs by private traders, the earlier Jiegao SEZ also helped raise the city of Ruili to a critical through-point or land port for gas and oil pipelines that China has built from the port city of Kyaukphyu on Myanmar's west coast to Kunming. The gas pipeline became operational in 2013 and carried 2.86 million tons of gas in 2016, accounting for about 5 per cent of China's total imports. The oil pipeline, which was completed in 2014, opened in 2017 after a long delay, and the Myanmar government has agreed to lower transit fees. The 771-kilometer pipeline is designed to carry 22 million tons of crude a year (about 442,000 barrels a day) for the Kunming-based refinery, which can process 13 million tons a year, while Myanmar can take 2 million tons annually from the line.<sup>5</sup>

This transnational energy supply line is localized in an SEZ being built at Kyaukphyu Port in Myanmar. The Kyaukphyu SEZ had been on the cards for some time and finally got the go-ahead in late 2018 when Myanmar and China signed a framework agreement to jointly develop this zone. After months of difficult negotiations between China's state investment vehicle CITIC Group and the Myanmar government, the two sides agreed to reduce the Chinese consortium's stake in the port from 85 per cent to 70 per cent, while CITIC won the original tender to build the port and an SEZ with an 85:15 ratio. The CITIC Group is still negotiating to develop an industrial park with an investment of \$2.7 billion, with a 51 per cent and 49 per cent stake between the Chinese firm and Myanmar, respectively. In addition, the Myanmar railways and the China Railway Group signed a memorandum of understanding to build a railway line between Mandalay and Muse on the Chinese border, part of an ambitious road/rail project to connect Yunnan with Mandalay to Yangon and onward to the deep-water port at Kyaukphyu. This trans-local expansion of SEZs to anchor and support cross-border energy and transport infrastructure differs considerably from the informal nature of private traders in jade or fruits congregated in the SEZs on the border, in that it is financed and built by large corporations such as CITIC, backed by the Chinese government. The more expansive and border-spanning scale of SEZ development has created more space and opportunities for informal/private and formal/public activities and projects to co-exist in stretching and enlarging the early model of fixed or geographically confined SEZs and their delimited development benefits.

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<sup>5</sup> "China Opens Delayed Myanmar Oil Pipeline to Get Mideast Crude Faster", *Bloomberg News*, 18 April 2017; <https://www.bloomberg.com/news/articles/2017-04-11/china-opens-delayed-myanmar-oil-link-to-get-mideast-crude-faster>.

## 5.2. The China–Lao People’s Republic case

The second case of border-intensive and border-straddling SEZ development is taking place between the Chinese border city of Mohan (also in Yunnan province) and the Lao border town of Boten. Mohan and Boten pale in comparison to the scale of population and vibrancy of economic activities within and between Ruili and Muse. Before 2013, the twin-city relationship was marked by infamous gambling in Boten, which drew Chinese over the border to squander their money. Other Chinese came to the border on buses from Kunming and beyond, as tourists who would travel on to tourist cities such as Luang Prabang. They could swap Chinese currency for Lao currency freely. Lao locals in Boten who could speak Chinese offered car services and peddled cheap goods. The gambling-related problems led the Chinese government to pressure the Lao government to shut down the casino in town and left Boten a “ghost town” (Chen, 2018b).

The bad image and marginal status of Boten experienced a dramatic turn to good fortune in 2015 when the governments of China and the Lao People’s Democratic Republic signed the Agreement for Joint Construction of the China–Laos (Mohan–Boten) Economic Cooperation Zone (ECZ). In fact, this bilateral plan was predated by the establishment of the Boten SEZ in 2009 directed by the Lao government, but little had happened through 2015. The ECZ became China’s way to jump-start and scale up the Boten SEZ by building a new and much larger city where the Boten zone is located, on the Lao side of the border. The construction has been undertaken by Haicheng, a private real estate development company based in Kunming. The signing of another joint development master plan for the ECZ in 2016 accelerated the construction, with the vision and goal of turning the zone into a comprehensive and integrated city for 300,000 people characterized by four functions: international commerce and finance; duty-free logistics; culture, education and health care; and tourism and vacation. It recalls Shenzhen’s functional expansion into a real city from its early years of industrial dominance.

While the Boten ECZ is being built into a new city, it offers a set of familiar financial incentives accorded to the Boten SEZ and other SEZs. These include (1) the exemption of import duties for all goods and materials used, sold and served in the zone; (2) tax reduction or exemption for 2–10 years for factories in the zone; and (3) tariff-free exports to third countries and qualification for most-favoured-nation status relative to advanced economies. The ECZ also benefits from being located at the central crossing point for both rail and road lines linking China, the Lao People’s Democratic Republic and Thailand that will eventually extend to Malaysia and Singapore. It also serves as the distribution and connection hub for cross-border trade and tourism. Moreover, the ECZ, in the heart of four concentric circles with travel radiuses of one to seven hours, allows easy and quick access and travel to a number of major cities and their hinterlands that span the connected adjacent

border regions of China, Myanmar, the Lao People's Democratic Republic, Thailand and Viet Nam.

The ECZ's ultimate success is most likely to depend on the completion and operation of the China–Laos Railway that runs by the Mohan–Boten border zone. Although the idea for the China–Laos Railway project germinated in 2010, the official agreement was not signed until November 2015; ground for construction was broken in Vientiane in December 2015. The line starts in Kunming and travels southward to Jinghong and Mohan until it enters the Lao People's Democratic Republic through the Lao border city of Boten. It will then move past Luang Prabang and Vang Vieng before arriving in Vientiane. Designed to carry both passengers and cargo, the railway will run at an average speed of 160 kilometers per hour, which qualifies it as a high- to medium-speed train, and 60 per cent of the line will be bridges and tunnels.<sup>6</sup> The Lao government expects roughly 4 million Lao passengers a year to use the railway's 420-kilometer route through the country at first, with the figure growing to 6.1 million passengers in the midterm and 8.1 million passengers in the long run.<sup>7</sup>

The fundamental benefit of this planned railway is billed as turning the landlocked country and its “disconnected destiny” to a land-linked one. In June 2010, China and the Lao People's Democratic Republic signed a memorandum of understanding to build the Saysettha Development Zone along the railway near the planned railway freight station in Vientiane. The zone aims to attract about 150 enterprises to operate from the hub, with a total output value to reach \$6 billion, and to create about 30,000 new jobs for locals by 2030 after its full development. After 2013, 32 companies were reported to have entered the zone and had already brought new ideas and best practice on operation and management to local factories.<sup>8</sup> If this is initial evidence of the potential multiplier effect of the planned railway, then it holds up hope for the future.

In comparison, the China–Myanmar case features a mixture of informal and formal economic activities and the scaling of SEZs in existing border cities and towns into booming hubs. The China–Lao People's Democratic Republic case reflects the dominance of Chinese State capital and a narrower focus on cross-border transport infrastructure in the China–Laos Railway, although the new China–

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<sup>6</sup> “China, Laos sign railway deal”, Zhao Lei, *The China Daily*, 14 November 2015; [http://www.chinadaily.com.cn/business/2015-11/14/content\\_22456633.htm](http://www.chinadaily.com.cn/business/2015-11/14/content_22456633.htm).

<sup>7</sup> “Laos and China come to terms on loan interest rate for railway project”, *Radio Free Asia*, 4 January 2016; <http://www.rfa.org/english/news/laos/laos-china-come-to-terms-on-loan-interest-rate-for-railway-project-01042016163552.html>.

<sup>8</sup> “China's Belt and Road Initiative to unlock Laos economic potential”, Liu Tian and Rong Zhongxia, *Global Times*, 4 September 2016; <http://www.globaltimes.cn/content/1004596.shtml>.

Laos ECZ in Boten is being built up rapidly as a hub for anchoring cross-border regional development. It is also too early to gauge the prospect of manufacturing-oriented SEZs being planned near some stations of the China–Laos Railway. The Lao People’s Democratic Republic is expected to host SEZs for labour-intensive industries that have begun to leave China due to its more expensive labour and land and upgrading to high-tech manufacturing in new zones (see table 2). The China–Laos Railway, however, has stimulated only limited subcontracting of partial production to small Lao companies. The expected completion of this cross-border railway in 2021 looms as a critical point for assessing both the local and extra-local economic impacts of SEZ development on both sides of the border, along the route of the railway.

## **6. Global SEZ development: a synthesis of Chinese lessons**

Change and continuity in SEZs in the world over the past four decades have been accompanied and influenced by China’s own economic development and global integration. These two processes have paralleled and intersected with each other through phases that reflect not only their own dynamics but also linked mechanisms and outcomes. Around 1980, China adopted the main elements of the early generation of EPZs through its experimental version of SEZs, crystalized in Shenzhen. Then China expanded the “learned” SEZs geographically to scale up export-oriented manufacturing based on its low-cost labour and land. At subnational levels the Chinese government aggressively subsidized its comparative economic advantages by building physical and transport infrastructure for all forms of SEZs. This Chinese mode of SEZ development continued into the 1990s and largely tracked the first stage of SEZ evolution into its second (tables 2 and 1).

As China upgraded its low-cost manufacturing, heavily concentrated in industrial zones in the coastal region, towards the end of the 1990s, it created more SEZs in its inland or border regions and began to “export” SEZ development, most notably to Africa, such as the Eastern Industrial Zone near Addis Ababa, Ethiopia. With approval by the Chinese government and the participation of regional governments, State companies, and private firms, China has built SEZs in Africa where it can not only relocate its labour-intensive manufacturing production but also introduce reforms and experiments that harken back to Shenzhen’s role (Dannenberg, Kim and Schiller, 2013). There was evidence linking the establishment of an SEZ in Ethiopia to the Chinese economist Lin Yifu, a former chief economist for the World Bank, having convinced former Ethiopian President Meles Zenawi of its value (Pairault, 2019). In 2019, China’s growing role in building African SEZs was significantly boosted when Hua Jian Group Co. (based in the largest shoe-making hub of Dongguan in southern China), which operates a large shoe factory in the

Eastern Industrial Zone near Addis Ababa employing some 6,000 local workers, acquired the right to operate Ethiopia's Jimma Industrial Park for 40 years.<sup>9</sup>

The stronger connection between the post-2010 phase of global SEZ evolution and China's SEZ evolution is also reflected in China's push to stretch its border SEZs into its Asian borderlands. This is strong evidence that China has played the most important role of all countries in shaping global SEZ diversification. It has done so in three linked domestic and international manners. First, China has contributed the largest number and most varied types of SEZs to the world. Second, China has become the most purposeful and aggressive exporter of SEZs to other developing countries, with a combination of its domestic SEZ features and new adaptations to overseas locations. Third, China has created a new generation of SEZs that straddle national boundaries and scale up into mini-cities with mixed formal and informal economic activities and functions.

Regarding China's domestic SEZs, two main policy lessons can be drawn. The first lesson, of a positive nature, has to do with a national government commitment to using SEZs of various kinds and locations to achieve multiple goals: drive industrialization, create jobs, promote exports, induce technology transfer and innovation, and stimulate broader regional development to reduce inequality. The second lesson, with an undesirable twist, pertains to many local governments competing to build identical SEZs and ending up with wasteful investment, unfair competition and partial failure. The combination of these two lessons points to the critical importance of vertical and horizontal policy coordination and operational sensitivity in creating truly needed SEZs for clear and achievable development goals from and beyond the most favourable locations.

China's venture to build SEZs overseas thus far invokes two other policy lessons that harken back to its domestic experience. The first and more positive lesson reinforces the two-sided trend that SEZs can continue to facilitate economic development and that the successful aspect of China's SEZs can be transferred to other developing countries with necessary adjustments. Despite their slow and stalled earlier development, the few SEZs set up in Africa through formal cooperation since 2006 have begun to address their development challenges and have managed to attract local and foreign investment. While some of the zones' business operations are nascent, in other zones significant numbers of jobs have been created (UNDP, 2015). These findings contradicted earlier studies that had showed the China-sponsored SEZs in Africa to be largely unsuccessful. The report also pointed to the challenges facing these SEZs, such as ensuring high-level

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<sup>9</sup> "Hua Jian takes over an Ethiopian state industrial park, to build shoe and coffee-processing factories", *Sina.com*, 15 June 2019; <https://cj.sina.com.cn/articles/view/1851435074/6e5aa84202000180t?from=finance&>.

political commitment and support for effective interministerial collaboration and integrating SEZ programmes into national development strategies and plans, which has characterized many of China's SEZs.

The other lesson concerns coordination and cooperation, as reflected in the challenges faced by a China-sponsored SEZ in Mauritius. One of the first African nations to use EPZs in the 1970s, earlier than China, Mauritius has seen its own EPZs and SEZs through stages of change and continuity that mirror the periods of global and Chinese SEZ evolution in response to shifted comparative advantages (tables 1 and 2 in this paper; Tang, 2019). Planned in partnership with Chinese textile company Tianli in 2006 to do manufacturing, the Mauritian zone struggled early on from the global financial crisis that severely weakened the Chinese company's ability to bring over investment for on-site development. To correct course, the Chinese government handed the project over to Shanxi province, which encouraged two resource companies to become partners in the endeavour and converted Tianli to a minority partner. Although the rebranded zone of Jinbei completed its basic infrastructure by 2011, few investors had showed up by 2015. By June 2017, the Jinbei zone took the shape of a finance and business area, a culture and leisure area and a port industrial area for logistics, and a popular tourist destination that offers a one-stop travel service to Chinese tourists, which amounted to a very different orientation than the original focus on manufacturing.<sup>10</sup> This case reflects the lack of good coordination and cooperation between China's national interest in building SEZs in Africa and the involvement of the Chinese private sector as the actual builder and investor in a foreign locality.

Regarding China's third role in global SEZ development – building cross-border or transboundary SEZs – two mixed lessons stem from two China–Southeast Asia cases. The China–Laos (Mohan–Boten) SEZ discussed earlier is similar to the Mauritian zone in that it is built by a regional private Chinese company (Haicheng) under a bilateral agreement at the national level. However, this SEZ is being built up and out on the Lao side of the border with China as an integrated city, like Shenzhen in its early years, albeit on a much smaller scale, making it very different from the narrow sectoral focus on the Jinbei zone in Mauritius. Still another recent case is the China–Kazakhstan International Border Cooperation Center, located in the city of Horgos in Xinjiang on the border with neighbouring Kazakhstan. Under a bilateral agreement, China has built 65 per cent of the space and Kazakhstan has built 35 per cent. This enclosed zone offers shared infrastructure facilities and

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<sup>10</sup> "Rise and stall: China's stepping stone to nowhere", *African Business*, 8 April 2015; <https://africanbusinessmagazine.com/sectors/infrastructure/rise-and-stall-chinas-stepping-stone-to-nowhere/>; "China and Mauritius: An enduring friendship", *China Today*, 7 June 2017; [http://www.chinatoday.com.cn/english/report/2017-06/07/content\\_741757.htm](http://www.chinatoday.com.cn/english/report/2017-06/07/content_741757.htm).

linked duty-free shopping that attracts both domestic and international tourists, especially small vendors and buyers for consumer goods from interior China and some parts of Central Asia. Although this informal economic activity in a lightly regulated SEZ resembles the jade market on the China–Myanmar border discussed earlier, it coexists with the formal nearby logistic hub for China–Europe freight trains that pass through Horgos and Central Asia to Europe (Chen, 2018a). These cases, which belong in the lower right corners of both tables 1 and 2, represent China's most distinct and influential impact on the global SEZ landscape. They are spatially much larger than the conventional SEZ and contain more diverse sectors and activities. This dual nature of China-initiated trans-border SEZs, if successful in stimulating underdeveloped border regions in developing countries, may turn out to be a positive policy lesson for improving and advancing SEZs in general.

The potential downside of this Chinese approach to global SEZ development may stem from the risk that these zones become exclusive spaces only for Chinese investors, workers and residents to the exclusion of citizens of the countries where the zones are located. This scenario is particularly likely on the Lao side of the zone, which is being built by a Chinese private development company that is also heavily involved in local governance. In this kind of large-scale infrastructure development driven by a powerful outsider, local “others” can easily be absent and excluded by what is included (Wiig and Silver, 2019). This can lead to the likely erosion of political and territorial sovereignty and governance of the countries hosting China-funded SEZs (Frazier, 2018). It also recalls the enclave-like nature of the early EPZs and more recent special infrastructure spaces that bypass or surpass the State's legal and governing reach and capacity (Easterling, 2014). The involvement of both the Chinese State and private companies in building SEZs overseas is consistent with the growing diversity and complexity of actors and agencies in China's overall global engagement. Given the marginal location of the China-championed cross-border SEZs in or near small cities in developing countries, it is capable of repositioning traditional cores and peripheries by both building large-scale infrastructure projects and stimulating more informal economic activities in transnational hinterlands (Klinger and Muldavin, 2019).

At this critical time for re-evaluating the evolution of SEZs and how they can continue to benefit development, we are only beginning to recognize and understand China's growing and multifaceted role in global SEZ development. Despite China's success with SEZs at home, often inflated by the singular prominence and reputation of Shenzhen, we should be cautiously optimistic that certain elements and practices of China's SEZs may be adapted to some developing countries, either through inter-country policy mobility or the new breed of China-foreign ECZs. As this potential grows from the further implementation of China's Belt and Road Initiative, it emerges as a new area of policy research that can inform and foster sustainable economic development through South–South cooperation.

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# Are special economic zones in emerging countries a catalyst for the growth of surrounding areas?

Susanne Frick and Andrés Rodríguez-Pose\*

What is the impact of special economic zones (SEZs) in emerging countries on the economy of surrounding areas? Despite the popularity of SEZs as a policy tool in virtually all developing countries around the world, there is little evidence to date which systematically analyses this question. This paper sheds light on this topic by examining the economic growth spillovers generated by 346 SEZs in 22 emerging countries. The analysis uses night light data as a proxy for SEZ performance as well as the economic performance of the surrounding area in order to overcome the lack of reliable economic indicators when measuring SEZ performance. It also relies on a novel data set on SEZ characteristics in order to understand how far they impinge on the economic fortunes of the surrounding areas. The results indicate that SEZs have a positive impact on the economic performance of the areas surrounding the zones. However, the growth spillovers are limited in area and display a strong distance decay effect: the magnitude of the impact decreases continuously up to 50 km. Furthermore, zones located in more remote areas seem to have less of an impact on neighbouring areas. Moreover, factors assumed to have a facilitating effect, such as the manufacturing base in the country and political stability, do not seem to matter on a structural basis.

**Keywords:** Special economic zones, economic growth, growth spillovers, distance decay effect, developing countries

**JEL codes:** L52, O14, O24, O25, R11

## 1. Introduction

Special economic zones (SEZs) are often regarded by policymakers as an instrument not only to stimulate investments and generate exports and employment, but also to dynamize the economy of surrounding territories. They, thus, often form part

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of broader development strategies. The fiscal and non-fiscal incentives offered by governments to firms aiming to locate in an SEZ are not given just with the aim of securing new investments and jobs within the zones, but also with the objective of achieving greater overall returns in regional development. Zones are, therefore, expected to create growth spillovers that can be reaped by economic agents in the local, regional and national economies. By attracting new businesses and providing them with a favourable investment climate, governments expect SEZ incentives to payoff through spillovers to local economies and economic growth in the long term (Farole, 2011; Picarelli, 2016; Zeng, 2016).

However, despite the popularity of SEZs as a policy tool in virtually all developing countries, little is known about the extent to which SEZs contribute to dynamizing the economy of the areas that surround them or whether their influence is simply bounded to within their borders. A systematic analysis of this question has mainly been hindered by data limitations and has generally been restricted to individual country case studies (see, for example, Alder et al., 2016; Picarelli, 2016; Wang, 2013). This paper aims to shed light on this under-researched topic by quantitatively analysing the impact of the growth of 346 SEZs in 22 emerging countries on the economic performance of their surrounding areas. In order to overcome the lack of reliable economic indicators when measuring SEZ performance, the analysis uses night light data as a proxy for SEZ performance as well as for the economic performance of the surrounding area. It furthermore relies on a novel data set of SEZ characteristics in order to understand how far those impinge on the economic fortunes of the surrounding areas.

We find that, on average, SEZ growth has a positive impact on the economic performance of surrounding areas. However, this impact is limited in area with a strong distance decay effect: the magnitude of the effect decreases continuously and is felt in distances of up to 50 km. Furthermore, zones located in more remote areas seem to generate fewer spillovers to be reaped by neighbouring firms and economic actors. Moreover, many factors assumed to have a facilitating effect on the generation of growth spillovers, such as the level of industrialization and the political stability of the country where the zone is located, do not seem to matter on a structural basis.

The paper is structured as follows. Section 2 provides an overview of the literature on spillover mechanisms and empirical evidence. Section 3 introduces the model and the data, while section 4 presents and discusses the results. Section 5 concludes and draws policy implications.

## 2. The role of spillovers

### 2.1. Spillover mechanisms

Spillovers to local economies can be defined and measured by static and dynamic economic outcomes as well as socioeconomic outcomes (Farole, 2011). The first type of spillovers coming from SEZs to local economies are static and economic in nature and can be generated in a short period of time. Some instances include primary investments by SEZ-based firms, regional employment and export generation, additional government revenues or foreign exchange earnings (Farole, 2011; Farole and Winkler, 2014; Zeng, 2016). The second type of economic outcomes can be defined as *dynamic* effects which tend to be long-term structural and developmental legacies. Some examples are the upgrading of local skills and technologies, and improved local innovation capacity, economic and structural diversification, or increased openness (Farole, 2011). All those factors are crucial for better firm productivity and long-term sustainable economic growth in regions. The third type are the socioeconomic consequences of SEZ policies, including the quality of employment, gender-related impacts, and compensation or resettlement practices, as well as land acquisition problems. All those outcomes stem from interactions between SEZ firms, firms in surrounding areas and workers, including backward and forward linkages, labour pooling and labour mobility between firms, as well as knowledge spillovers. Hence, the stronger these interactions, the more spillovers are likely to be produced.

How are spillovers transmitted to local economies? Many mediating factors and transmission channels are crucial for facilitating spillovers. Those factors depend on both SEZ-based and non-SEZ-based firms, and the endowments of their workforces as well as institutional factors of host countries. First, localized knowledge spillovers are highly dependent on the regional absorptive capacity and learning competences of local workers and firms (Agrawal, 2002 and Feldman, 2004; Boschma, 2005). The effective transfer of knowledge and skills requires local absorptive capacity to identify, interpret and then transmit new knowledge into local production processes. Hence a workforce with at least basic skills is more likely to absorb new knowledge and incorporate new technologies.

Second, the impacts of spillovers and local productivity gains are stronger, the greater the interaction between SEZ-based and non-SEZ-based firms (Farole and Winkler, 2014). From a theoretical perspective, spillovers can happen within the same industry (called intra-industry or horizontal spillovers) or across different industries (inter-industry or vertical). Nonetheless, both the quality and quantity of backward and forward linkages matter for spillover effects. Through backward and forward interaction mechanisms SEZ-based firms transmit knowledge and

technology or upgrade standards for local production or labour (Duarte et al., 2014; Farole and Winkler, 2014). Backward linkages encourage local firms to train their workers in order to be able to meet their buyers' expectations. Backward and forward linkages can therefore generate multiplier effects on local employment, innovation and growth (Farole, 2011; Zeng, 2016).

Third, the spillover potential depends on the characteristics of SEZ-based firms. Factors such as the motivations behind investments, global production and sourcing strategies, and technological intensity, as well as the length of their presence determine the quality and quantity of spillovers to local economies (Farole and Winkler, 2014). SEZ-based firms that stick to global supplier relationships reduce the scale of vertical spillovers to local non-SEZ-based firms.

The location of an SEZ and its proximity to large markets also matter for spillovers. The co-location of foreign and domestic firms in the same region can mediate the benefits from SEZs through technology and knowledge spillovers (Farole and Winkler, 2014). More specifically, SEZ-based firms co-locating in the same sector and region have the potential to significantly increase productivity and employment.

Overall, SEZ growth spillovers depend on the characteristics and strategies of SEZ-based firms and local endowments, as well as the institutional environment of the host country. All those spillover transmission channels are expected to attract foreign direct investment (FDI) to the region, upgrade local skills and technologies, and improve overall regional growth.

## **2.2. Empirical evidence of spillovers**

What empirical evidence is there on the presence of growth spillovers from SEZs? The previous discussion has argued that both the quantity and quality of spillovers depend on complex transmission mechanisms from SEZs to local economies. While the literature on spillovers from SEZs is almost non-existent, there is a broader literature which has delved into spillover externalities, focusing mainly on FDI.

One of the main goals of SEZs is to attract FDI, the reason being that foreign companies are expected to produce significant spillover effects. This is corroborated by the empirical literature, which generally suggests that FDI generates positive externalities to local economies. Some cases, however, require government intervention to facilitate the creation of the necessary transmission mechanisms. This literature tends to be based on developed-country cases. The literature on developing countries (and developed countries below the technological frontier), by contrast, generally expresses considerable concerns about the capacity of the areas surrounding SEZs to reap any potential benefits from zones because of the limited absorptive capacity at the local level.

Duarte et al. (2014), for example, assessed the impact of FDI and the prerequisites for spillovers in Mozambique. They found that low absorptive capacity and insufficient skills in the country greatly limited the effects of knowledge spillovers from FDI. They are sceptical about the capacity of a country with the characteristics of Mozambique to truly benefit from FDI and suggest that policies focusing on expatriation, emigration and tertiary education may be a more suitable option in order to generate development.

Osabutey et al. (2013) explored technology and knowledge transfer potential from multinational corporations within the construction industry in Ghana. Their findings uncovered that partnerships between foreign and local firms were rendered difficult by potentially complementary but dissimilar knowledge bases (e.g. technological vs. sociocultural and institutional knowledge). Hence, a pervasive absence of government policies and incentives to encourage foreign-local collaboration have prevented potential technological and knowledge transfers to local economies and represents an important further limitation on the diffusion of knowledge spillovers.

Vahter (2011) investigated the FDI impact on knowledge-sourcing activities, innovation and productivity growth of domestic firms in Estonia's manufacturing sector. Using firm-level panel data and an instrumental variable approach, he found that FDI inflows into a particular sector were not associated with increases in knowledge flows into domestic firms and in innovation activities.

Research has also found that FDI does not necessarily foster technological upgrading. Garcia et al. (2013) evaluated the impact of inward FDI on host country firms as well as the degree to which inward FDI affects the innovativeness of Spanish firms. On the one hand, inflows into Spain were negatively associated with the ex-post innovation of local firms; on the other, inward FDI was positively related to ex-post labour productivity and total factor productivity. They concluded that although inward FDI facilitates efficient resource allocation in the local economy, it can be harmful for the local technological development and can disrupt long-term economic growth.

Finally, the importance of location and proximity to larger markets is often regarded as a vital factor for spillovers. Barrios et al. (2006) showed that foreign firms co-locating in the same sector and region significantly increase the productivity and levels of employment of local manufacturing firms in Ireland. Likewise, the co-location of firms in industry clusters has been shown to have an important impact on spillovers (Nadvi and Schmitz, 1994; Thompson, 2002). In certain cases, however, proximity to agglomerations and larger markets yields contrasting results depending on the geographical scale considered. In Indonesia, Sjöholm (1999) found that co-location generates positive spillovers at the country level, but negative ones at the region-sector level.

Hence, although FDI may be at the source of spillover effects, local conditions in less developed and even more developed territories and countries may not always facilitate the diffusion of knowledge and, in particular, its absorption by local firms.

What does this imply for SEZ policies? SEZs have, in certain cases, been considered pivotal for economic takeoff and adjustment (Johansson and Nilsson, 1997; Farole and Akinici, 2011). The very first zones in “tiger economies” were regarded as facilitators of industrial development and technological upgrading. In China, Guangdong, Beijing and Shanghai are deemed to have benefitted from SEZs and industrial parks (Rodríguez-Pose and Hardy, 2014) and have become the biggest beneficiaries of SEZ economic reform (Zhang and Bao, 2015). In fact, the so-called Chinese model also provided a platform for bringing FDI as well as encouraged economic reforms across the country. Nevertheless, this approach has also been criticized for creating economic imbalances within a country.

SEZs have also been regarded as fundamental engines of economic growth in the surrounding areas. Wang (2013) reported an average increase in per capita FDI of 58 per cent in Chinese municipalities with close proximity to SEZs. She also observed that Chinese SEZs did not crowd out domestic investments and domestically owned capital stock. Alder et al. (2013), also using Chinese data, revealed that the establishment of major zones generated an increase in GDP levels of between 6 per cent and 10 per cent, depending on the type of zone. This impact of SEZs mainly stemmed from the accumulation of physical capital.

However, not all studies dealing with SEZs in China and, in particular, elsewhere reach the same positive conclusions. According to Amirahmadi and Wu (1995), export processing zones in Asia have generated very limited linkage effects to domestic economies, except in the most advanced developing areas of the continent. The pitfalls that limited spillovers stem from poor location choices, inadequate infrastructure and insufficient institutional quality. Thus, simplified rules and training of local workforces are both needed to enhance knowledge spillovers emanating from export processing zones and SEZs. Similarly, Leong (2013), using an instrumental variable approach for Chinese and Indian regions, reported that SEZs in both countries have had a very limited impact on the export growth of local industries.

### **3. Model and data**

#### **3.1. Model**

The theoretical overview of the previous section suggests that SEZs can generate considerable spillovers and help dynamize surrounding economies. However, it also

highlights the enormous difficulties faced by firms in SEZs in generating knowledge spillovers and by societies, in general, and firms outside the zone, in particular, in absorbing and realizing the knowledge spillovers emanating from the SEZ. Addressing whether and to what extent SEZs contribute to growth in surrounding areas requires assessing the presence of knowledge spillovers from the SEZ and examining the extent to which said spillovers expand over space.

The main barrier in this respect is that past empirical assessments of the nature and geographical extent of spillovers have relied on rather imperfect proxies to evaluate the territorial connections at the heart of the diffusion of knowledge over space. As discussed earlier, the existence of linkages between firms and agents inside and outside an SEZ may lead to knowledge exchange, but this knowledge may or may not result in economically viable activity. Capturing these processes cannot be done with simple proxies. Yet, lack of adequate data has meant that the most influential analyses of spillovers – although sometimes trying to bring on board other types of distances, such as technological distance – have remained firmly anchored in measures of geographical distance as the main way to measure the presence of spillovers (e.g. Audretsch and Feldman, 1996; Beise and Stahl, 1999; Kaiser, 2002; Maurseth and Verspagen, 2002).

In this type of research, the most dominant method of measuring spillovers is through the use of a normalized spatial weight matrix describing the interregional linkages between neighbouring regions, using either inverse distance or the k-neighbours method as the weighting criterion.

Even more difficult has been the assessment of absorptive capacity. As discussed in the previous section, the capacity to assimilate knowledge generated elsewhere is dependent, among other factors, on the skills available in the recipient territory, its economic structure and institutional conditions, and its accessibility. The mechanisms and interaction that determine the absorptive capacity of a territory are, however, complex and difficult to operationalize empirically. Researchers who have delved into this question have tried to gage absorptive capacity by the use of a number of so-called filters: the social filter (Rodríguez-Pose, 1999; Rodríguez-Pose and Crescenzi, 2008) or the knowledge filter (Acs et al., 2004; Acs and Plummer, 2005). These analyses typically include composite indices comprising factors such as skills and education, openness, wealth or institutional quality, which may facilitate the absorption of knowledge.

We follow these approaches by proposing the following model to evaluate the potential impact of economic activity in areas surrounding the SEZs considered in the analysis.

$$\Delta y_{i,t} = \alpha_1 + \beta_1 y_{i,0} + \beta_2 SEZ\ performance_{i,t} + \beta_3 absorptive\ capacity_{i,t} + \beta_4 SEZ\ related\ factors_{i,t0} + \epsilon_i$$

Where:

- $\Delta y_{i,t}$  is the dependent variable, the economic growth – measured using night light in the area surrounding the SEZ;
- $y_{i,0}$  is the initial level of development of the area – measured using the luminosity in the zone surrounding the SEZ;
- *SEZ performance* is the economic growth in the SEZ in the same period – measured, once again, using night light;
- *Absorptive capacity* includes those factors that may influence the capacity of neighbouring areas to take advantage of SEZ firm activity;
- *SEZ-related factors* depicting some characteristics of the SEZ, as they may influence the spillovers from the SEZ to surrounding areas; and
- $\epsilon_j$  is the error term.

### 3.2. Surrounding area and SEZ growth

Ideally, the performance of an individual SEZ (*SEZ performance*) should be measured using indicators such as job creation (direct and indirect), growth in revenues, the export performance of the firms in the SEZ and spillovers to the national economy. However, a lack of such data for a large amount of SEZs and countries has limited quantitative research on the topic until recently and thus requires an alternative approach. We, therefore, rely on the data set assembled by Frick, Rodríguez-Pose and Wong (2019) and use night-time light as a proxy for the economic performance of an individual SEZ.<sup>1</sup> They show that the growth of night light within the area of the SEZ is highly correlated with other SEZ performance indicators such as employment and number of firms. Hence, night-time light growth can be used as a reliable proxy for SEZ performance.

We, furthermore, use night-time light growth to measure the growth in the areas surrounding the SEZ. For this purpose, circles of different radiuses are drawn around the centroid of the SEZ, while the area of the SEZ is subtracted from it. The growth in night light in these areas is then calculated. We experiment with different

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<sup>1</sup> Night-time light data provide a suitable and increasingly popular alternative in those cases where direct economic data are not readily available. Stemming from the field of remote sensing, whose practitioners were the first to spot the economic implications of changes in night-time light data (Elvidge et al., 1997, 2007), economists and other social scientists have increasingly resorted to light data as a proxy for economic activity (e.g. Florida et al., 2008, Henderson et al., 2012), especially when economic data are unavailable or unreliable either for a specific region or period.

radiuses to understand the spatial extent of the possible spillover. These include radiuses of 10, 20 and 50 kilometres from the centroid in the zone.

The initial luminosity in these areas is also used in order to control for convergence' i.e. areas that start from a lower base are likely to experience higher growth.

### 3.3. Absorptive capacity

In order to analyse the role of absorptive capacity in facilitating spillovers from SEZs, a number of factors measuring different aspects of the regional and national socioeconomic environment are included in the regression. *SEZ distance to closest city with at least 300,000 inhabitants* is considered in order to understand whether the proximity of a zone to a city and thus a large workforce and potential non-SEZ trading partners affects spillovers into surrounding areas. *Regional population density* provides a further indication of the agglomeration economies a zone might be exposed to. *Years of schooling* and the natural logarithm of the *country GDP per capita* reflect the local socioeconomic environment and are basic elements of most social or knowledge filters employed to portray assimilation of knowledge and economic activity spillovers. *Industry (share of GDP)* captures a country's level of industrialization. A higher level of industrialization should be correlated with a larger manufacturing base and therefore a higher incidence of linkages between non-SEZ and SEZ firms. It would be desirable to add further nuance by including controls for the industry base and type of firms around the SEZ. However, these data are not available at this point. Finally, *political stability* controls for the political situation in a country. SEZ firms may be less prone to build up forward and backward linkages with local markets if the country's situation is unstable. This may attract more efficiency-seeking, "footloose" companies that can move production in a relatively short time span. Appendix 1 presents and includes a short description of the variables.

### 3.4. SEZ-related factors

Finally, we also aim to control for SEZ-related characteristics, as suggested by the literature review. Ideally, we would have information for the type of investors within the SEZ, their motivations and their sourcing strategies. However, as such data are currently not available, we resort again to the data set used in Frick et al. (2019). The question is which SEZ-related factors might affect spillovers in the surrounding areas. We consider a number of factors that may affect the production and diffusion of growth spillovers. The first one is *years operating*, which measures how long an SEZ has been in operation and whether the impact of SEZ growth on its surroundings can be sustained over time. Furthermore, while we cannot include specific information on the firms within the SEZs, we can include a control

for a zone's sector focus. *High-tech* indicates whether an SEZ focuses its activities on high-tech industries. This could affect spillovers, both because of the labour intensity of the sector and because of potential links to local inputs and producers.

### 3.5. Estimation approach

The period of analysis is 2007 to 2012, for which information is available for 346 SEZs in 22 emerging economies from the aforementioned data sets. Appendix 2 presents an overview of the country coverage.

The analysis is conducted in two stages. The first stage considers only the potential influence of changes in luminosity during the period of analysis on the economic growth of surrounding areas, in order to understand the spatial dimension of the possible growth spillovers. In the second stage, the factors that may facilitate or deter the absorption of spillovers from activities conducted in the SEZ are inserted in the analysis.

## 4. Results

### 4.1. Baseline regression

Table 1 represents the first stage of the analysis. It intends to assess the capacity of SEZs to generate spillovers, proxied by their effect on the growth of neighbouring areas, up to a distance of 50 km from the zone. For each radius size, only the direct effect of SEZ performance is considered (table 1, columns 1, 4 and 7). Country (columns 2, 5 and 8) and regional (columns 3, 6 and 9) dummies are added in order to examine whether different local conditions significantly affect the capacity of SEZs to shape the performance of surrounding areas.

The results of the analysis show that areas surrounding an SEZ in emerging countries generally benefit in economic terms from its presence. The coefficients for changes in SEZ performance are positive and significant in eight of the nine estimations. However, while areas surrounding a zone tend to benefit from its economic dynamism, the results also display a strong distance decay effect. The coefficients are strongest within a 10-km radius from the zone and rapidly decline with distance: if we only take the regressions without country and regional dummies (columns 1, 4 and 7), the coefficient already becomes 13 per cent smaller at a distance of 20 km relative to the one estimated for a 10-km radius. At 50 km from the centre of zone, the effect of spillovers declines by a full 43 per cent (column 7).

**Table 1. Dependent variable: change in lights from 2007 to 2012 of surrounding areas**

Sector	(1) 10-km radius	(2) 10-km radius	(3) 10-km radius	(4) 20-km radius	(5) 20-km radius	(6) 20-km radius	(7) 50-km radius	(8) 50-km radius	(9) 50-km radius
SEZ performance	0.383*** (0.0674)	0.344*** (0.0674)	0.268*** (0.0390)	0.336*** (0.0986)	0.277*** (0.0957)	0.108*** (0.0256)	0.218** (0.0934)	0.151* (0.0837)	0.0198 (0.0340)
Initial lights in surrounding area	-5.85e-06*** (1.43e-06)	-5.21e-06*** (1.47e-06)	-5.99e-06*** (2.04e-06)	-1.74e-06*** (5.60e-07)	-1.68e-06** (6.95e-07)	-7.45e-07 (7.21e-07)	-4.51e-07*** (1.23e-07)	-4.99e-07** (2.06e-07)	-1.88e-09 (1.39e-07)
Constant	0.172*** (0.0254)	0.171*** (0.0256)	0.191*** (0.0249)	0.172*** (0.0308)	0.179*** (0.0337)	0.171*** (0.0253)	0.191*** (0.0282)	0.208*** (0.0375)	0.156*** (0.0190)
Regional dummies	-	-	Yes	-	-	Yes	-	-	Yes
Country dummies	-	Yes	-	-	Yes	-	-	Yes	-
Observations	346	346	346	346	346	346	346	346	346
R-squared	0.442	0.515	0.829	0.270	0.349	0.808	0.198	0.304	0.943

Note: Robust standard errors in parentheses; clustered at within-country regional level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

The distance decay effect is even greater in the preferred models; that is, when country and, especially, regional dummies are considered. When introducing country dummies in the analysis, the coefficient at 50 km is 56 per cent lower than at 10 km (column 8), whereas when regional effects are considered, it becomes fully irrelevant (column 9) – meaning that once the regional unobserved factors are taken into consideration, there is no evidence that SEZs have an influence on the economic growth of the areas that are located 50 km away.

This strong distance decay effect is not uncommon and highlights, as indicated by Wang (2013), that the strongest impact on economic growth linked to the presence of SEZs in emerging countries is felt in the immediate vicinity of the zone.

#### **4.2. SEZ characteristics and absorptive capacity**

Does this positive but rapidly declining association between economic growth in a zone in an emerging country and the surrounding areas stand when taking into account regional and national factors that may condition the capacity of neighbouring areas to absorb spillovers? Do specific factors associated with the SEZ also condition its impact on the growth of neighbouring areas?

Table 2 presents the results of the second stage of the analysis. Columns 1 to 3 show the results for each of the three distances, controlling for the different indicators measuring a region's and a country's absorptive capacity. Columns 4 to 6 add the further controls related to the SEZ characteristics.

Throughout, the results for the SEZ performance mirror those of the regressions of table 1: the coefficient of SEZ growth is always positive and highly significant, indicating a positive impact of SEZ growth on neighbouring areas. Furthermore, the magnitude of the coefficient of SEZ performance weakens considerably with distance – the coefficient goes from 0.370 at 10 km (column 4), to 0.308 at 20 km (column 5), and 0.184 at 50 km (column 6) when controlling for both absorptive capacity and SEZ characteristics. This confirms the strong distance decay effect of SEZ growth already identified in the first stage of the analysis (table 1).

What is the effect of the other controls? We find interesting results pointing to the importance of the absorptive capacity of surrounding areas. First, a larger distance of the SEZ to a city with at least 300,000 inhabitants is negatively associated with the growth of the surrounding area. The result is significant in all but one of the regressions. This suggests that spillovers are more likely to happen if the zone is located in proximity to a larger city, allowing for a sufficiently large pool of labour and firms to connect with. This is in line with previous findings in the literature which suggest that co-location of firms and access to a larger market facilitate spillovers to local firms (Barrios et al., 2006; Farole & Winkler, 2014; Nadvi and Schmitz, 1994; Thompson, 2002). Second, regional population density is negatively correlated with

**Table 2. Dependent variable: change in lights from 2007 to 2012 of surrounding areas**

Variables	Absorptive capacity			Absorptive capacity + SEZ-related factors		
	(1) 10-km radius	(2) 20-km radius	(3) 50-km radius	(4) 10-km radius	(5) 20-km radius	(6) 50-km radius
SEZ performance	0.371*** (0.0665)	0.312*** (0.0967)	0.184** (0.0854)	0.370*** (0.0682)	0.308*** (0.0981)	0.184** (0.0874)
SEZ distance to the closest city with at least 300,000 population	-0.000128** (5.11e-05)	-0.000106* (5.69e-05)	-0.000130** (5.68e-05)	-0.000119** (5.43e-05)	-9.76e-05 (6.07e-05)	-0.000134** (6.13e-05)
Regional population density	-0.0163** (0.00645)	-0.0145* (0.00841)	-0.0190** (0.00946)	-0.0151** (0.00693)	-0.0131 (0.00898)	-0.0199* (0.0104)
LN GDP per capita 2007	0.0264* (0.0156)	0.0312* (0.0176)	0.0410** (0.0190)	0.0261* (0.0157)	0.0315* (0.0179)	0.0414** (0.0197)
Years of schooling	-0.0169*** (0.00608)	-0.0229*** (0.00626)	-0.0271*** (0.00670)	-0.0167*** (0.00599)	-0.0226*** (0.00621)	-0.0273*** (0.00665)
Share of industry in GDP (%)	-0.00152 (0.00159)	0.000606 (0.00201)	0.00317 (0.00222)	-0.00174 (0.00163)	0.000501 (0.00202)	0.00328 (0.00224)
Political stability	0.00598 (0.0139)	0.00826 (0.0173)	0.0132 (0.0214)	0.00586 (0.0145)	0.00722 (0.0182)	0.0125 (0.0231)
SEZ with high-tech focus				0.0117 (0.0193)	0.00732 (0.0167)	-0.0107 (0.0165)
Number of years SEZ operating				-0.000491 (0.000873)	-0.000669 (0.000990)	0.000153 (0.00124)
Initial lights in surrounding area	-4.93e-06*** (1.46e-06)	-1.44e-06** (6.38e-07)	-4.11e-07** (1.69e-07)	-4.95e-06*** (1.45e-06)	-1.45e-06** (6.42e-07)	-3.99e-07** (1.67e-07)
Constant	0.224 (0.143)	0.140 (0.166)	0.0496 (0.179)	0.228 (0.146)	0.136 (0.169)	0.0478 (0.189)
Observations	345	345	345	345	345	345
R-squared	0.474	0.298	0.252	0.475	0.298	0.253

Note: Robust standard errors in parentheses; clustered at within-country regional level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

surrounding area growth. This implies that, although SEZs should not be located too far away from a relatively large city, the chance for spillovers is higher in less densely populated areas. And third, the initial luminosity of the area is negative and highly significant throughout table 2, suggesting the expected convergence effect.

Turning to the country characteristics, GDP per capita is positively correlated with the economic growth in areas surrounding the SEZ, while the coefficient for years of schooling is negative and strongly significant in all regressions. The former result indicates that a certain level of development is required for spillovers to occur, mirroring previous evidence that SEZ impact on neighbouring regions is more likely in more advanced areas (Amirahmadi and Wu, 1995). The negative effect of years of schooling in combination with the GDP per capita may suggest that once a certain level of development is reached, additional educational attainment is not structurally correlated with the impact of a zone on the growth of neighbouring areas. It also reinforces previous findings that highlight that the most successful SEZs in terms of economic growth in emerging countries have, so far, tended to be those with a relatively low-skill component (Frick et al., 2019).

Finally, the level of industrialization and institutional setting does not seem to have an effect on the ability of SEZs to drive growth in the surrounding areas. Neither *industry* nor *political stability* are significant in any of the regressions.

When including additional zone characteristics, the results remain largely unchanged. Furthermore, the two zone characteristics included do not seem to influence the impact of SEZs on the growth of neighbouring areas. *Years operating* is insignificant throughout the analysis and hence not a factor determining the capacity to generate and absorb knowledge spillovers. Similarly, whether a zone is focused on high-tech does not seem to matter, with the coefficient being insignificant in columns 4 to 6. Interactions between the zone performance and zone and contextual factors were tested, but resulted in insignificant coefficients.

The evidence emerging from these regressions is clear and supports the idea, highlighted in the literature, that although SEZs may be at the heart of new spillovers, their impact is constrained by local conditions and is generally felt only in close proximity to the zone. We have seen how even though SEZs contribute to the growth of surrounding areas, their effect on neighbouring areas declines steadily with distance. This result is robust to controlling for regional and national factors. There is, consequently, a strong distance decay effect in the capacity of SEZs to affect economic development in surrounding areas, which may be related to the size and characteristics of the zones, but more likely to the problems of absorption of many of the areas where the zones are located. A combination of successful low-tech zones based in low-cost regions with skills, infrastructure and institutional deficiencies outside the zone are likely to have played an important part

in limiting the capacity of SEZs in these environments to maximize the impact in the surrounding areas (Vather, 2011; Osabutey et al., 2013; García et al., 2013; Duarte et al., 2014).

## 5. Conclusions

The aim of this paper has been to analyse the extent to which the performance of an SEZ drives economic growth in the areas surrounding it. The research relied on a new data set sourced from Frick et al. (2019), covering data on SEZ characteristics and performance across 346 zones in 22 emerging countries. These data make it possible to overcome challenges related to limited data availability related to SEZ characteristics and performance, a problem that has plagued research on the topic until recently. Night-time light data have also been used to proxy for economic dynamism in the areas surrounding the SEZs.

The evidence stemming from the analysis is clear. SEZs in emerging countries contribute to the growth of surrounding areas, but this effect suffers from strong distance decay. The immediate vicinity benefits and the influence of zones is still felt within a 50-km radius, but the effect at the latter distance is much weaker, when not outright insignificant. These results are robust to the inclusion of zone, regional and country characteristics. Furthermore, we find support for the expectation that SEZs located in more remote areas may have less of an impact on neighbouring areas owing to their limited ability to interact with non-SEZ firms and workers.

These findings have important policy implications for those countries and areas in the developing world currently considering SEZs as a viable development tool. They show that although SEZs represent a development instrument worthy of consideration, policymakers should not place excessive hopes in their capacity to transform the economic dynamism of the country. As we have demonstrated, SEZs can and often do help dynamize the immediate surroundings of the areas where they are based. But, because of the presence of strong distance decay effects, it is unlikely that the impact and the economic effect of the zone will expand beyond 50 km. Hence, rather than an instrument for radically transforming the economic fortunes of a country – which is unlikely to happen, especially in view of the recent evidence that the economic trajectories of SEZs are often not more dynamic than those of the rest of the country where they are located (Frick et al., 2019) – zones should be seen as interventions to help transform the economic fortunes of specific localities and small regions. This implies that decision makers should adjust the ambition of the goals behind the development of SEZs. Such goals and ambitions need be far more realistic than what has often been the case until now.

Policymakers may also want to exercise caution when making decisions about where to locate a new SEZ. In view of our research, promoting SEZs in relatively remote rural and isolated regions is unlikely to make much economic difference, as proximity to cities seems to be one of the driving factors behind the capacity of zones to link up with their immediate surroundings. Very often it is intermediate cities that stand to benefit the most from the development of SEZs, but even in such cases more attention should be paid to the possible link between firms in the zone and firms outside it.

The type of zone being promoted also matters. Very often high-tech fantasies have dominated the agenda. However, the gap between the high-tech companies that may be attracted to the zone by means of tax breaks and other incentives and subsidies, on the one hand, and the skills and capacities of local firms and other economic actors, on the other, is frequently too wide to fill. Tailoring the type of zone to the skills and innovation capacities of the local environment will in all likelihood lead to more successful outcomes than simply hoping that local firms will absorb knowledge spillovers from the new investment, with neither the capacities nor the support to do so. Attracting firms that would help increase the technological complexity of existing firms and that would encourage them to improve product quality and diversify is much more likely to produce local value chains that will translate to greater innovation, productivity and employment at the local level than is relying on high-tech fantasies.

Finally, decision makers should be acutely aware of the level of development of the country and of the place where the zone is going to be established. A certain level of development is required in order to maximize the spillovers emanating from a zone. Aiming too high when the local conditions are far from ideal risks wasting scarce resources that could yield greater returns in other types of interventions – from promoting and expanding basic education to improving the competitiveness of local firms. Hence, SEZ policies cannot really be considered as a substitute for broader structural reforms aimed at enhancing the potential for the development of economic activities, as well as the overall absorptive capacity in the country.

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## Appendix 1

Variables	Description	Source
SEZ performance	$(Y_{i,1} - Y_{i,0})/Y_{i,0}$ : Growth rate of the sum of night lights of the pixels that compose the SEZ surface over period of analysis	Frick et al. (2019)
SEZ distance to the closest city with at least 300,000 Inhabitants	Road distance in kilometres to the closest city with at least 300,000 inhabitants	Frick et al. (2019)
Regional population density	Natural logarithm of regional population density in 2007	Regional data set sourced from Gennaioli, LaPorta, Lopez-de-Silanes and Shleifer ( <a href="http://scholar.harvard.edu/shleifer/publications?page=1">http://scholar.harvard.edu/shleifer/publications?page=1</a> )
LN GDPpc	Natural logarithm of the GDP per capita in the beginning of the period of analysis (constant 2010 US\$)	World Development Indicators
Years of schooling	Years of schooling in 2007	Barro & Lee data set ( <a href="http://www.barrolee.com/data/full1.htm">http://www.barrolee.com/data/full1.htm</a> )
Industry (share of GDP per cent)	Industry, value added (share of GDP, per cent) in the beginning of the period of analysis	World Development Indicators
Political stability	Political stability indicator in the beginning of the period of analysis, from -2.5 to 2.5	Worldwide Governance Indicators
Number of years SEZ operating	Number of years zone had been operating in 2007	Frick et al. (2019)
High-tech focus	Dummy = 1 if the zone either “self-proclaims” on their advertising material that they specifically target high-tech sectors or if companies established are within high-tech sectors, as defined by OECD	Frick et al. (2019)

## Appendix 2

Countries	Number of zones
East Asia and Pacific	255 (73%)
China	33
Philippines	29
Malaysia	6
Republic of Korea	64
Thailand	20
Viet Nam	103
Europe and Central Asia	40 (10%)
Turkey	36
Russian Federation	4
Middle East and North Africa and Sub-Saharan Africa	6 (2%)
Ghana	1
Jordan	1
Kenya	1
Lesotho	1
Nigeria	1
South Africa	1
Latin America and the Caribbean	26 (7.5%)
Argentina	4
Chile	3
Colombia	6
Dominican Republic	10
Honduras	3
South Asia	19 (5%)
Bangladesh	8
India	8
Pakistan	3
<b>Total</b>	<b>346 (100%)</b>

# Structural transformation through free trade zones: the case of Shanghai

Guangwen Meng and Douglas Zhihua Zeng\*

Launched in 2013, the Shanghai Pilot Free Trade Zone (FTZ) was intended to serve as a platform for testing China's new policy to facilitate more open trade and further open up its services sectors, such as finance, through easing restrictions on foreign and domestic companies. By 2018, it had attracted over 50,000 member companies. This paper provides an overview of global free economic zones (FEZs), or special economic zones (SEZs), and a detailed study of the Shanghai Pilot FTZ and its success factors and challenges. It draws out lessons that may be applicable to other developing countries.

**Keywords:** Free economic zones, free trade zones, structural transformation, services sector liberalization, Shanghai Pilot Free Trade Zone

## 1. Introduction

There are many terms for economic zones, such as special economic zone, export processing zone (EPZ), science-based park, free trade zone, and so on. For the purpose of this paper, the generic term free economic zone (FEZ) is used to refer to the various economic zones in Shanghai, such as the economic and technological development zones (ETDZs), Pudong New Area (a special economic zone), EPZ, high-tech industrial park, bonded zone, pilot free trade zone (FTZ), and so on (Meng, 2003).

As part of a country's industrial policies, an FEZ is supposed to complement market forces by helping to overcome market failures. The empirical research by Aghion et al. (2015) shows that industrial policies that are allocated to competitive sectors or that foster competition in a sector increase productivity growth. An FEZ is intended to overcome some important market failures and government coordination failures,

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which include a malfunctioning land market, deficient industrial infrastructure (power, water, gas, telecommunication, waste treatment, etc.) needed for industrial agglomeration, and a poor regulatory and business environment caused by coordination failures within governments or between government and the private sector (Zeng, 2016b). Strictly speaking, an FEZ approach is needed only when all these failures exist at the same time; otherwise an industrial park might be sufficient in cases where the regulatory or business environment is not the main constraint on investment, but rather deficiencies related to available and reliable sustainable infrastructure and investor services.

Since the first modern economic zone was established in Shannon, Ireland in 1959, zone development has exploded. Despite the emergence of new programmes in the countries of Eastern and Central Europe, the Middle East and Africa, zone activity is relatively concentrated in Asia and the Pacific, Latin America, and Central and Eastern Europe and Central Asia. UNCTAD's World Investment Report, which provided an analysis of economic zones in 2019 found 5,400 zones in operation across 147 countries, up from 4,000 five years ago (UNCTAD, 2019).

Successful zones can generate many benefits, such as the attraction of foreign direct investment (FDI), the generation of jobs and exports, and potential spillover effects (Zeng, 2011). However, establishing an FEZ is a high-risk, high-reward undertaking; it involves heavy public investments and government coordination and requires strong implementation capacity. Globally the performance of FEZs is mixed, with top performers mostly in Asia (especially East Asia) and zones in other regions generally not performing as well. There are many "white elephants" as well. In Africa, an exception is Mauritius, which transformed its economy through an EPZ in the 1970s. Today more and more African countries have launched FEZ programmes (Zeng, 2016a).

In China, the experience with FEZs as policy tools for achieving development objectives has been generally successful. In Shanghai, as in other regions, different types of FEZs were established in different phases. The development of Shanghai FEZs can be divided into three stages, in terms of their time sequence: ETDZs, comprehensive FEZs and pilot FTZs. The development and evolution of the different types of FEZs is briefly analyzed and evaluated in the next section.

## **2. Literature review and research questions**

A zone represents a divergence from traditional import-substitution policies. EPZs, as one type of FEZ, are normally fenced-in estates with strict customs controls; most of the products (normally over 80 per cent) created in these zones must be exported. This model has been successful in many countries, such as the Republic

of Korea, Taiwan Province of China, China, Viet Nam, Bangladesh, Mauritius, the Dominican Republic and El Salvador (Farole and Akinci, 2011). Many new EPZs have been created since those. By 1986, according to the International Labour Organization (ILO), 176 EPZs were operating in 47 countries; and by 2019 the number had grown to 5,400 zones in 147 countries (UNCTAD, 2019). Zones are typically established with the aim of achieving one or more of four policy objectives (Madani, 1999; Cling and Letilly, 2001; Meng, 2005; FIAS, 2008; Zeng, 2011; Farole and Akinci, 2011; Fuller and Romer, 2012): (1) attracting FDI and promoting exports and industrialization; (2) serving as pressure valves to alleviate large-scale unemployment; (3) supporting a broader economic reform strategy; and (4) acting as experimental laboratories for the application of new policies and approaches.

Many economists believe that FEZs can achieve industrial development in an efficient and effective way (Zeng, 2010; Lin and Monga, 2010; Meng, 2015a). In particular, investing in them can (1) provide a bundling of public services in a geographically-concentrated area; (2) improve the efficiency of limited government funds or budgets for infrastructure; (3) facilitate cluster development, or the agglomeration of certain industries; and (4) enhance urban development by providing facilities conducive to improved living conditions for both basic wage workers and highly-skilled technical workers, taking advantage of economies of scale in the provision of environmental services, such as water treatment plants and solid waste treatment plants. Thus, the zones can be conducive to both job creation and income generation, and potentially, to protecting the environment and promoting both green growth and eco-friendly cities (Lin and Wang, 2014).

As one of the important FEZ types, free trade zones have captured the interest of many researchers. FTZs, if implemented properly, could bring economic and welfare effects through a more liberalized environment. However, these benefits are not guaranteed due to the negative effects caused by market and trade distortions as well as possible failures. Hamada (1974) used the Heckscher–Ohlin or two-countries, two-factor and two-commodities trade model to analyze the economic implications of a duty-free zone, where products are exempted from duties. Grubel (1982) examined the costs and benefits of regulations and suggested that FEZs could act as both a substitute and complement to whatever deregulation or reform is achieved, and improves welfare through the expansion of trade and through specialization, and that it affects the supply of jobs, technology and entrepreneurship. However, he also pointed out that FEZs may reduce welfare through the locational diversion of trade and investment and the generation of negative externalities. Hamilton and Svensson (1982) analyzed the relationship between foreign capital in a host country and in its free zone and found that with regards to sector-specific capital, the flow of capital into the protected sector decreases welfare, and vice versa. Miyagiwa (1986) explored the condition under which the establishment of an FTZ can improve welfare regardless of the relative factor intensity of a zone-based

industry. The relative factor intensity of an FTZ is crucial in determining the change in welfare following economic growth and foreign investment.

Warr (1989) examined the benefits and costs of EPZs in Indonesia, the Republic of Korea, Malaysia, and the Philippines, and the relationship between the welfare effects of EPZs and the host country's economic policies, and concludes that when the domestic economy is distorted, the EPZ confers limited welfare gains, and EPZs are far from the "engines of development" that some countries had initially expected. Gupta (1994) compared a duty-free zone with a non-duty-free zone in a small open economy and found that expanding the duty-free zone policy by reducing import duties on intermediate goods in a sector ultimately lowers the level of output of that sector, raises the level of unemployment, lowers national income (social welfare) and increases economic inequality. However, if the tariff on the final product is reduced in that sector, it produces the opposite result.

Ge (1995) analyzed the direct and indirect impacts of urban enterprise zones on regional economies and suggested that the establishment of urban enterprise zones is a beneficial and effective policy instrument that could be used in promoting urban renewal and regional economic growth. Facchini and Willmann (1999) used the Dixit-Norman approach to study the gains from duty-free zones and concludes that introduction of a duty-free zone leads to Pareto gains over autarky and that its welfare effect depends on the redistribution mechanism accompanying free trade. Tiefenbrun (2013) delves into the business benefits and tax advantages of FTZs in the United States and abroad and suggests that FTZs could play a significant role in economic growth by increasing exports, attracting foreign direct investment, and enhancing industry competitiveness.

In the existing literature, only little consideration has been given to the development and evaluation of various types of FEZs in Shanghai as a whole (Meng et al., 2018). This paper adds more recent experiences and lessons from Shanghai, especially the Shanghai Pilot FTZ, which was set up in 2013, and it tries to answer the following questions: (1) What are the key lessons of Shanghai's FEZ experience? (2) Is Shanghai's case relevant to low-income countries, such as those in Africa?

### **3. Shanghai's early experiment with FEZs**

In 1983, following the examples of FEZs in other regions under China's open-door policy, especially Guangdong and Xiamen provinces, the Shanghai municipal government officially set up the Minhang Development Corporation to start the establishment of the Minhang Development Zone. In 1984, the government set up the Caohejing Electronic Industrial Zone, and in 1985, it started the Shanghai Hongqiao United Development Company to take charge of the construction

and management of the Hongqian Development Zone. Following the central government's policy of further opening coastal cities and gradually establishing ETDZs, the Shanghai Minhang ETDZ and the Hongqiao ETDZ were approved as national-level ETDZs in 1986. Two years later, the Caohejing ETDZ was also approved. They were granted many preferential policies from both the central and the local government in matters of land and infrastructure utilization, as well as taxes and the like.

Since the 1990s, these original three development zones not only maintained their economic growth and yielded fruits in institutional innovation, but also underwent transformation and diversified development in their spatial structure, which made them one of the pillars supporting the social and economic development and the reform and opening up of Shanghai. At that time, the location of reform and opening up in China formed a T-shaped pattern, along the coast from south to north and along the Yangtze River from east to west. Located in the center of this T-shaped pattern, Shanghai was in a strategic position to lead the whole country economically. More space was needed for its further development if it was to become an international metropolis and Yangtze River Delta urban agglomeration integrated with the world economy.

To fulfill the new development objectives set by the central government and its own development needs, Shanghai began to develop and construct the Pudong New Area in 1990. As a comprehensive FEZ, the Pudong New Area consists of financial development zones, bonded zones, new and high-tech industrial parks, EPZs, and the like.

Thanks to its strategic location, good management, diversified industries and various preferential policies, the Pudong New Area became the core zone of social and economic development and policy innovation in Shanghai from its establishment. Major economic indicators of the Pudong New Area have multiplied, accounting for an increasing proportion in the city. From 2000 to 2014, its GDP increased 6.7 times, its tax revenue 21 times, and its import and export value 9.5 times. Moreover, its share of Shanghai GDP, tax revenue, and import and export value increased 7.48, 15.33, 11.07 and 10.07 percentage points.

With the global economic slowdown after the 2008 crisis and China's rebalancing of its economic development model, it was important to promote the high-end services sector through further economic reforms. Shanghai was again chosen as a test ground for this new development model. Establishing the Shanghai Pilot FTZ was a necessity in order to face the new global economic challenges, deepen reform and opening up, gain experience for China's industrial upgrading, deal with the "New Normal" and promote Shanghai to become an international economic, finance, trade and shipping center (Meng, 2015b).

## 4. Shanghai Pilot FTZ, Phase I (2013–2014)

In 2009, an expert from the Chinese Association of Productivity Science visited Shanghai and investigated “Possibilities and Necessities of Establishing Shanghai FTZ” and reported it back to the central Government. By the end of 2012, then-Premier Wen Jiabao approved it in principle. In July 2013, Premier Li Keqiang presided over the executive meeting of the State Council, where the *Overall Plan of Establishing China (Shanghai) Pilot Free Trade Zone* was affirmed, and soon after, the plan was officially approved by the State Council.

The general goal of the FTZ was to accelerate the transformation of governmental functions, promote the opening up of services industries and institutional reform of foreign investment management, develop a headquarters economy and new forms of trades, and test capital account convertibility and financial sector liberalization.

In addition, it sought to set up a classification regulation mode for goods, form policy supporting a system of investment and innovation, cultivate a business environment for internationalization and legalization, and build the Shanghai FTZ into an international zone with convenient investment, liberal currency exchange, efficient and easy regulation, and a normative legal environment, thus providing a new idea and way for China to open wider to the outside world.

On September 29, 2013, the China (Shanghai) Pilot FTZ was officially launched. It included four special customs regulation areas: the Waigaoqiao Bonded Area, the Waigaoqiao Bonded Logistics Park, the Yangshan Free Trade Port Area and the Pudong Airport Comprehensive Bonded Area, covering an area of 28.78 km<sup>2</sup> and formed by “Four Areas and Three Ports” (table 1).

After more than a year of operation, the Shanghai Pilot FTZ had achieved significant results in economic development and institutional innovation.

### 4.1. Economic growth

In 2014, except for fixed investments the main economic indicators – total industrial output, total income, revenue, total volume of exports and imports, tax revenue, FDI, employment – all increased greatly compared with 2013 (table 2). A total of 160 overseas investment projects were completed and the cumulative investment from Chinese enterprises reached US\$3.8 billion. In addition, the Pilot FTZ also met the intermediate objectives in investment, trade and finance.

### 4.2. Promoting the negative list

With respect to investments, foreign and national investors are treated equally; foreign investors are governed by the negative list. In 2014, over 90 per cent of

**Table 1. Scope of China (Shanghai) Pilot Free Trade Zone**

Zone	Area (km <sup>2</sup> )	Function and Industry	Primary Targets
Waigaoqiao Bonded Area	10.10	International trade center	1) Enhancing transformation of government functions and focusing on management during and after the trading process
Waigaoqiao Bonded Logistics Park	1.03	Shipping logistics center	2) Opening service and financial industries wider
Yangshan Free Trade Port Area	14.16	International shipping service area	3) Exploring to set up management mode of negative list
Pudong Airport Comprehensive Bonded Area	3.59	International air services and modern business functional area	4) Create legal environment for foreign investment
Lujiazui Finance and Trade Zone	34.26	Function: Financial system led by Chinese and foreign banks, insurance companies, trust and investment corporations, security companies and fund companies	1) Investment administration system focusing on the negative list 2) Trade administration system focusing on trade facilitation
Jinqiao Export Processing Zone	20.48	Base of processing and manufacturing industry under special customs supervision	3) Financial innovation system aimed at opening capital account convertibility and financial service
Hangjiang High-Tech Zone	37.20	Function: industrial model combining processing and manufacturing with R&D of new and high-tech products	4) Supervision system during and after the trading process focusing on transforming government functions 5) Legal and policy guarantees

Source: Website of China (Shanghai) Pilot FTZ (<http://www.china-shftz.gov.cn/Homepage.aspx>).

Note: Two-level management structure for the all Shanghai FTZ: 1. Leading group of Shanghai FTZ; 2. Management Committee of Shanghai FTZ, which consists of Lujiazui, World Expo, Jinqiao, Zhangjiang and Bonded Zone Administrative Bureau. That means a three-part managerial system: (1) Management Committee plus Development Companies, (2) Functional Area plus Management Committee plus Development Companies, and (3) an Enterprise-oriented Management System.

new foreign enterprises in the Pilot FTZ were set up through the simplified filing and registration procedure. The first batch of 23 measures aiming at opening up services industries had been implemented, involving 368 projects in total. The second batch of 31 measures are still being implemented. There were 190 items on the negative list in 2013, but that was reduced to 139 items in 2014, a reduction of 26.8 per cent.

### 4.3. Promoting trade facilitation

Learning from international experience, the Shanghai Pilot FTZ has implemented more than 60 innovative measures including some addressing maritime affairs and customs inspection and quarantine, and has provided more efficient customs

**Table 2. Main Indicators of China (Shanghai) Pilot FTZ (2012–2017)**

Indicator	Unit	2012	2013	2014	2015	2016	2017
Total industrial output	RMB billions	72.78	64.62	57.27	390.19	431.28	492.50
Total income	RMB billions	1,284.97	1,442.44	1,609.46			
Total revenue	RMB billions	46.45	55.95	63.79			
Employees of enterprises	Thousand people	269.00	286.10	296.10			
Volume of fixed investments	RMB billions	4.84	5.10	3.04	56.31	60.79	68.03
Total volume of exports and imports	US\$ billions	113.05	113.43	124.10	741.55	783.68	1350
Volume of imports	US\$ billions	86.71	83.93	90.95	538.85	552.09	944.69
Volume of exports	US\$ billions	26.34	29.50	33.15	202.7	231.59	405.31
Tax revenue of Tax Department	RMB billions	42.90	50.83	57.64	102.22		
Tax revenue of Customs House	RMB billions	98.88	93.77	98.26			
Newly established enterprises	Number	788.00	4,416.00	11,440.00	10,901.00	10,298.00	7,283.00
FDI projects	Number	164.00	359.00	2,057.00	3,072.00	2,760.00	1,192.00
Amount of actual FDI	US\$ billions	0.55	0.70	0.62	4.82	6.18	7.02

Source: Shanghai Statistical Yearbook in 2015, 2017, China Statistics Press.

clearance services, which has produced excellent results. For example, integrated circuit manufacturers transferred part of their business to the pilot FTZ to get quicker access to production and assembly enterprises and markets. Meanwhile, the FTZ developed a number of ways to facilitate trade. First, it developed regulatory classification for bonded goods, offshore goods and non-bonded goods; second, it formed standardized and normalized procedures, based on the experience of international trade enterprises; third, it regulated various departments such as business, foreign currency, tax revenue, port-shipping and finance, and built a single-window system to provide efficient services for enterprises.

#### **4.4. Capital account convertibility and opening of financial services industry**

The pilot FTZ promotes financial innovation and supports a free trade account system and commodity trading center. Ten banks have started to open free trade accounts, and many enterprises use free trade accounts to develop trade financing, cross-border mergers and acquisitions, and cross-border trading settlements, among other activities. All of those steps greatly facilitate enterprises going global and the internationalization of the renminbi. With the opening of finance, the pilot FTZ has attracted 110 institutions and services enterprises with financial licenses. In addition to banks, it includes the Shanghai Gold Exchange, the Shanghai International Energy Trading Center, and the Shanghai International Trading Center for Financial Assets and Commodities Spot Market. Furthermore, the pilot FTZ seeks to gain experience in the management of a negative list in financial field, to strengthen supervision during and after the trading process, and to explore innovative approaches to the tax system for foreign investments and offshore businesses (Chen, 2015).

#### **4.5. Shanghai Pilot FTZ, Phase II (2015 to 2019)**

The initial Shanghai Pilot FTZ has achieved good results and accumulated a lot of experience that can be applied elsewhere. But since its area was only 28.78 km<sup>2</sup>, it was hard to support further reforms and opening up, and not sufficiently large to help realize Shanghai's core goal of "Five Centers" (a world economic center, a financial center, a shipping center, a trade center and an innovation center). Therefore, China decided to broaden this pilot zone.

On April 30, 2015, the State Council approved the *Reform Planning of Further Deepening China (Shanghai) Pilot FTZ*. The general goal was to further improve the investment management system, focusing on the negative list; the trade supervision system, focusing on trade facilitation; the financial innovation system, aiming at opening capital account convertibility and financial services; and the supervision system during and after the trading process, focusing on transforming the governmental function. The ultimate goal was to form a world-class business environment to promote finance and trade, advanced manufacturing, and technological innovation.

The expanded SFTZ covers an area of 120.72 km<sup>2</sup>. It includes the Shanghai Waigaoqiao Bonded Area, the Waigaoqiao Bonded Logistics Park, the Yangshan Free Trade Port Area, the Pudong Airport Comprehensive Bonded Area – four special customs supervision areas (covering 28.78 km<sup>2</sup>) – and the Lujiazui Financial District (34.26 km<sup>2</sup>), the Jinqiao Development Area (20.48 km<sup>2</sup>) and the Zhangjiang High-Tech District (37.2 km<sup>2</sup>).

Since the area increased by five times, the investment and trade policy of the FTZ could not only benefit the services industries, but also the high-tech industries. With the guidance and support of relevant line ministries and state commissions, the 2015 negative list was more open than those of 2013 and 2014 in the areas of services and advanced manufacturing industries (table 3). Comparing the negative list of 2018 with that of 2015, the industrial category decreased from 15 items to 14, and the industrial subcategory decreased from 50 items to 45. Some 18,269 companies contributed to new business registration in this area in a year; 14,943 of them were domestic enterprises, with RMB 907.8 billion in registered capital. The other 3,326 companies own US\$39.6 billion in contractual foreign investment. Shanghai's annual FDI investment has reached US\$2.9 billion, accounting for 57.4 per cent of investment in the whole city.

After the capital account convertibility effort achieved its first step – establishing free trade accounts in SFTZ phase I – SFTZ phase II tried to take the second step to capital account convertibility. In 2015, 44,186 free trade accounts were opened, with a total of about RMB 1.2 trillion in cross-border trade settlements, and more than RMB 6.9 billion in cross-border RMB business overseas loans. The total pool of bidirectional RMB cross-border business transactions was more than RMB 339 billion. SGE (Shanghai Gold Exchange) International started to operate, holding an accumulated turnover of 4,795 tons, accounting for 14.1 per cent of the trading volume on the Shanghai Gold Exchange.

In addition, new explorations were made in industrial forecasting, protection of intellectual property rights, information disclosure, scientific and technological innovation, and a talent service system. All these will provide new momentum for Shanghai's dynamic and innovative development.

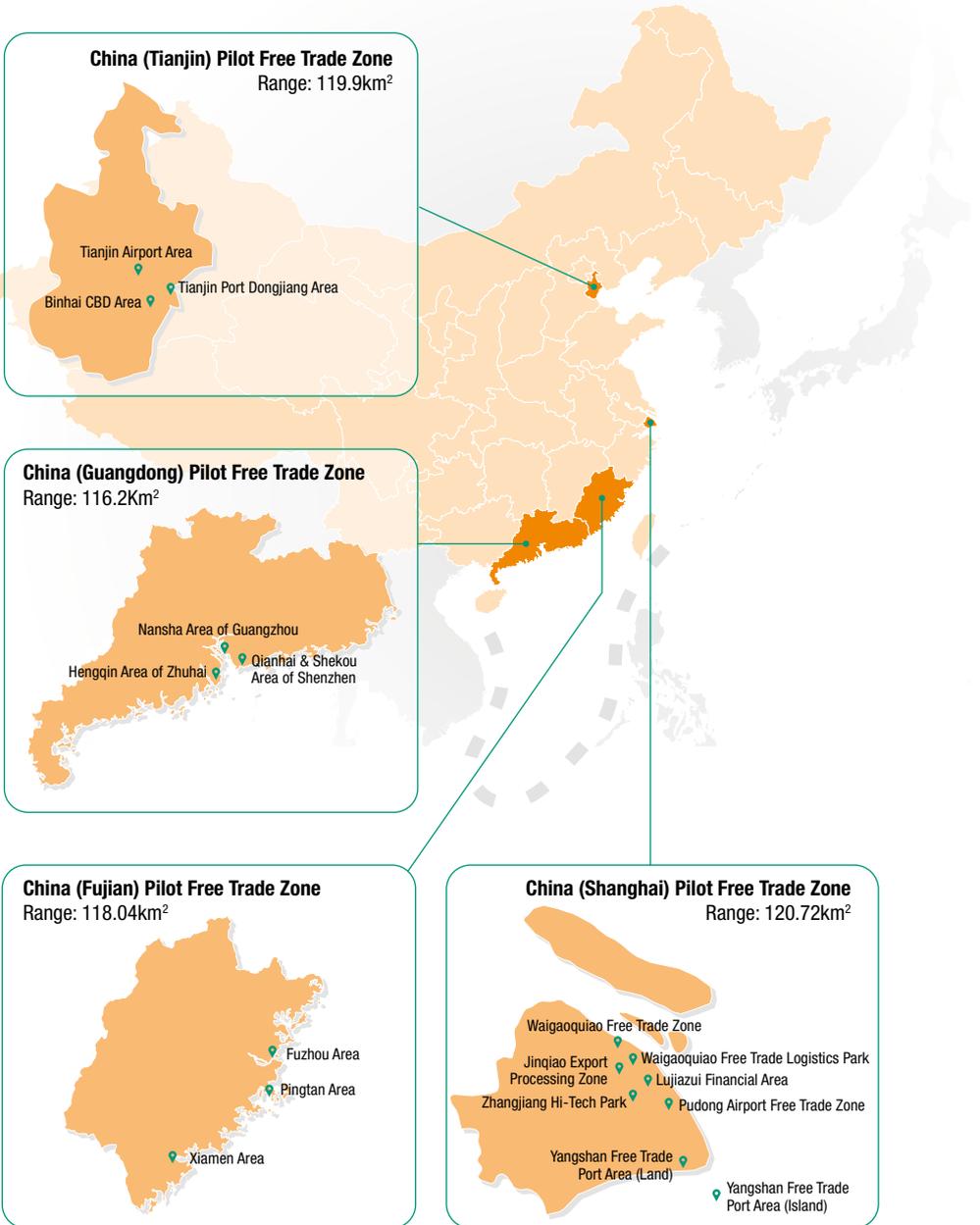
China has undergone several transitions and reforms, namely, to participate in globalization and regional integration in an active manner rather than a passive one; to combine the economic and administrative reforms rather than carrying out economic management reform alone; to open the services sector instead of the manufacturing one; to trade in both goods and services instead of goods alone; to open up towards developed countries not only developing ones, so as to meet the goals of environmental improvement, resources and energy security, overcoming the middle-income trap, and sustainable economic growth and development. To this end, the Chinese Government needs to further expand the scope of reform and opening up under the new normal economy according to the opening strategy, version 2.0. In addition to the expansion of the Shanghai Pilot FTZ, three other pilot FTZs were licensed to open in Tianjin, Guangdong and Fujian. The Shanghai Pilot FTZ serves the whole country and the world, while those in Tianjin, Fujian and Guangdong function in North China, North-East, South-East and South Asia, as well as Europe and Africa (figure 1, table 4).

**Table 3. The Negative List of China Pilot FTZ, 2015 Edition**

No.	Industry Categories (50)	Fields (122)
1	Agriculture, forestry, animal husbandry, fishery	(1) Seed industry, (2) fishery
2	Mining industry	(3) Exploration and development of exclusive economic zone and continental shelf, (4) oil and gas exploration, (5) exploitation of rare earth and rare metal ores, (6) metal and non-metal mining and exploitation
3	Manufacturing industry	(7) Aviation, (8) shipbuilding, (9) automobile manufacturing, (10) rail transportation equipment manufacturing, (11) communications equipment manufacturing, (12) mineral smelting and rolling processing, (13) pharmaceutical manufacturing, (14) other manufacturing
4	Production and supply of electricity, heat, gas and water	(15) Atomic energy, (16) pipe network facilities
5	Wholesale and retail	(17) Franchise
6	Transportation, storage and postal services	(18) Road transportation, (19) railway transportation, (20) water transportation, (21) public air transportation, (22) general aviation, (23) civil airports and air traffic control, (24) post
7	Information transmission, software and information technology services	(25) Telecommunication transport services, (26) Internet and other related services
8	Finance	(27) Type requirements for banking shareholder institutions, (28) qualification requirements for the banking sector, (29) banking share ratio requirements, (30) foreign banks, (31) futures companies, (32) securities companies, (33) securities investment fund management companies, (34) securities and futures trading, (35) establishment of insurance agencies, (36) insurance
9	Leasing and business services	(37) Accounting and auditing, (38) legal services, (39) statistics and investigations, (40) other business services
10	Scientific research and technical services	(41) Professional technical services
11	Management of water conservancy, environment and public facilities	(42) Animal and plant resource protection
12	Education	(43) Education
13	Health and social work	(44) Medical services
14	Culture, sports and entertainment	(45) Broadcasting, transmission, production and management of radio and television, (46) press and publishing, radio, film and television, financial information, (47) film production, distribution and screening, (48) intangible cultural heritage, cultural relics and archeology, (49) culture and entertainment
15	All industries	(50) All industries

Source: General Office of the State Council on the Issuance of the Special Management Measures on Foreign Investment Access to Pilot Free Trade Zones (Negative List) (2015), No. 23.

**Figure 1. Locations of the Four Pilot FTZs in China**



Note: The boundaries used on this map do not imply official endorsement or acceptance by the United Nations.

**Table 4. General Information on the Four Pilot FTZs in China**

<b>FTZ Name and Total Area (km<sup>2</sup>)</b>	<b>Parks in FTZ</b>	<b>Area (km<sup>2</sup>)</b>	<b>Functions and Industries</b>
<b>Shanghai</b> 120.72	Lujiazui Finance and Trade Zone	34.26	Functions: Finance and trade zone Industries: Financial institutions including Chinese and foreign banks, insurance companies, trust investment companies, securities companies and fund companies
	Jinqiao Export Processing Zone	20.48	Functions: Economic and technological development zone; customs supervision development zone Industries: High-tech businesses, including electronic information, biomedicine
	Zhangjiang Hi-Tech Park	37.20	Functions: High-tech products manufacturing primarily, as well as upgrading through manufacturing, in order to form an industrial pattern of R&D and production Industries: Biochemical and electronic information
	Four Bonded Areas	28.78	Functions: International trade logistics (two Waigaoqiao zones); international shipping (Yangshan); international air business services (Pudong Airport) Industries: Finance, international trade, logistics, storage, business
<b>Tianjin</b> 119.90	Dongjiang Port Park	30.00	Functions: International logistics, trade and finance Industries: Shipping logistics, international trade, finance lease and other modern services
	Tianjin Airport Industrial Park	43.10	Functions: International logistics, trade and aerospace Industry Industries: Aerospace, equipment manufacturing, new generation of information technology and other high-end manufacturing; R&D, aviation logistics and other producer services
	Central Business District	46.80	Functions: Financial innovation-oriented services Industries: Financial innovation, business and trade services, cultural creative industry
<b>Guangdong</b> 116.20	Guangzhou Nansha New Area	60.00	Functions: An advanced, world-class, integrated service hub Industries: Shipping and logistics, finance, international trade and high-end manufacturing industries
	Shenzhen Qianhai Shekou Area	28.20	Functions: Pilot demonstration for China's financial industry, a base for world trade services and an international hub port Industries: Emerging financial services, modern logistics, information services, technology services and other new strategic services industries
	Zhuhai Hengqin New Area	28.00	Functions: A base for international business services and leisure tourism; a new channel for the diverse economic development of Macao Industries: Tourism, business and financial services, culture, science, education and high-tech industries

**Table 4. General Information on the Four Pilot FTZs in China (Concluded)**

FTZ Name and Total Area (km <sup>2</sup> )	Parks in FTZ	Area (km <sup>2</sup> )	Functions and Industries
Fujian 118.04	Xiamen Park	43.78	Functions: Demonstration zone for cross-strait cooperation in new industries and modern services industries, an international shipping center in South-East China, the cross-strait regional financial services and trade center Industries: International shipping, finance, trade and new industries
	Fuzhou Park	31.26	Functions: Advanced manufacturing base; platform for communication and cooperation along the 21st Century Maritime Silk Road; a demonstration zone for cross-strait services trade and financial innovation cooperation Industries: Advanced manufacturing, finance and trade
	Pingtang Park	43.00	Functions: Demonstration zone for cross-strait service industries cooperation Industries: High-end services, tourism, modern logistics, high-tech, marine

## 5. Success factors and challenges of Shanghai FTZ and other FEZs

Through reviewing and analyzing the development process of the Shanghai FTZ, it is clear that this pilot zone, together with other FEZs, has played a critical role in the reform and opening up and the economic development of Shanghai and China as a whole. Their success is affected by many factors, mainly including the development strategy and goal, site selection, industrial and spatial structure, management and development know-how, investment and preferential policies. These are discussed in detail in the following subsections.

### 5.1 Factors leading to success of the Shanghai Pilot FTZ and other FEZs

Many factors led to the success of the Shanghai FTZ and other FEZs. They include clear development strategy and goals, the right location, a reform-oriented approach, constant upgrading of strategic sectors and broad government-enterprise partnership.

#### *a. National and regional strategies and goals*

The FEZs are mainly used as a way of implementing national and regional development strategy and policy, piloting China's reform and opening-up policies, and building growth poles of economic development and urbanization.

The three stages of the Shanghai FEZs synchronize with the national and regional strategic development goals and the progress of China and Shanghai's reform and opening-up policies. This integration ensures that these zones get full support from the national and local governments. The more recent Shanghai Pilot FTZ was intended to promote China's high-end services industries and to explore ways of achieving industrial upgrading and structural transformation for China.

### ***b. Strategic and appropriate location***

Appropriate location selection is conducive to the success of Shanghai FEZs. All the zones are included in Shanghai's urban development plan and have easy access to major infrastructure such as airports, seaports, waterways and highway networks, and skilled labour forces. For example, the Pudong New Area lies in the east part of Shanghai and at the intersection of the middle point of the Chinese coast and the estuary of Yangtze River, so it boasts convenient transportation (both highways and waterways) and proximity to major markets in China, especially the Yangtze River Delta region and the regional market in East Asia. Shanghai also has a vast pool of human talent. All these favourable conditions make Shanghai an ideal location for FEZs.

### ***c. Reform-oriented approach***

Just as in the rest of China, all the zones in Shanghai have been used to test new reforms and new development models. The ETDZs and the Pudong New Area were used to conduct reforms of policies on land, taxation, finance, labour, immigration and customs. These reforms helped the Chinese government gain valuable experience in developing a market-oriented economy, which was later rolled out throughout the country. The most recent Shanghai Pilot FTZ was used to further improve the business environment through more simplified administrative procedures and to liberalize the services sector, such in trade and finance. The negative list was the first trial of such an approach in China, which represents great progress, and itself has been evolving from a long list to a shorter and shorter list, corresponding to the reform process.

### ***d. Constant upgrading of strategic sectors and spatial pattern***

On the basis of their different strengths, locations and stages, the different zones have targeted different priority sectors and spatial scale and structure. In terms of their main industries, the Shanghai FEZs can be divided into processing and manufacturing-oriented zones, science-oriented zones, trade-oriented zones, service-oriented zones and mixed zones. They also fully leveraged their brand names to boost their development potentials. With the deepening of reforms and opening up as well as the transformation of the economic growth model, each

FEZ has also transformed itself both functionally (e.g., from an economic and technological development zone to a high-tech industrial zone) and spatially (from a single zone into multiple zones).

*e. Flexible management mechanism and broad public-private partnership*

The management and development model of the Shanghai FEZs ensured their efficient operation and profits. The earliest EDTZ in Shanghai employed an enterprise-oriented management model, thus guaranteeing commercial flexibility in the beginning. For large zones, a mixed management model was applied, combining the strengths of government with those of enterprises. In addition, each zone established its own development corporation to take charge of the development and operation of the zone.

## **5.2. Challenges faced by Shanghai FTZ in its development**

Despite the successful Shanghai FEZs and FTZ, they still face some challenges. These are mainly from uncertainty in the global economy and trade, the process of deepening the reforms, and insufficient spillover effects.

*a. Uncertainty in the new global environment*

Given the ongoing trade conflict between China and the United States, and growing trade protectionism actions, China will be forced to compete with other developing countries in manufacturing exports, which will severely affect its exports in general. Meanwhile, China faces great pressure to open up its services sector to developed countries. In this challenging environment and amid the global economic downturn, it will be particularly challenging for the FTZ and other FEZs in Shanghai, and in China in general, to maintain export-led growth and to continue the reform trajectory.

*b. Deepening services sector reform*

Shanghai has to further open up the services sector, especially the financial sector, to foreign investors through the Shanghai Pilot FTZ, obtain the management know-how to handle a negative list and free trade, test financial sector liberalization, and realize the goal of making Shanghai an international economic, financial, trade and shipping center as well as indigenous innovation center. These are very challenging tasks for China, and as the forerunner for economic and institutional reforms, the Shanghai FEZs, especially the Shanghai Pilot FTZ, will have to carefully manage the risks and find new ways in many uncharted waters.

### *c. Limited spillover effects*

Despite the fact that Shanghai has attracted FDI through various FEZs since the 1980s, there are not many highly innovative Chinese firms emerging from Shanghai, and its high-tech sector seems still dominated by foreign companies. In terms of innovation capacity and strength in the emerging digital economy, Shanghai still trails Beijing, Shenzhen and Hangzhou, despite its advantages in human capital, finance and location. This raises the question, how effective are these FEZs in generating spillover effects and helping to strengthen local innovation capacity? Beyond Shanghai, many cities in China might be facing a similar challenge.

## **6. Major lessons learned**

In reacting to the rapidly changing global and external situations, the Shanghai FTZ and all other FEZs have gone through different development stages and tested reforms in many areas. The lessons learned and the experience accumulated through this process will be widely relevant for other developing economies as well.

### **6.1. Building a positive business environment**

The Shanghai Pilot FTZ has provided solid infrastructure such as roads, water, power, seaports and airports, to international standards, and with easy access to domestic and global markets. The zones also offer efficient public services (such as one-stop service) and both fiscal and non-fiscal incentives. In many countries, the inconvenience of transportation and communication systems and the insufficiency of energy and supporting facilities decrease production efficiency and offset the advantage of low costs. Therefore, FTZs should only be established at places with ideal locations. In this way, the concentrated infrastructure developed and constructed will meet the basic production requirements of domestic and foreign investors (Zeng, 2016a). In low-income countries, given the lack of finance, it is important to tap into private resources through public-private partnerships or let the private sector take ownership, and develop and operate the zones. In some cases, a build-operate-transfer approach could be applied. In Ethiopia, for example, a purely private zone – the Eastern Industrial Zone – has yielded very promising results. In any case, governments should still be responsible for common infrastructure, especially off-site or last-mile elements.

### **6.2. Pursuing a reform-oriented approach**

One of the reasons that the Shanghai FTZ and other FEZs are successful is that they are all reform-oriented and were used to test new policies and new approaches

in management, trade, finance and investment policies. This may be the most important factor that makes zones in China and East Asia particularly successful (Zeng, 2010, 2011, 2019). One of the objectives of FEZs is to overcome the business environment constraints arising from legal and policy aspects, as well as inefficient government services and poor coordination. Thus, although nationwide reforms are not possible, the zone initiatives provide a way to showcase the power of reforms.

### **6.3. Industrial upgrading and spillover effects**

FEZs or FTZs, as a means to achieve national and local development goals, play different roles in the different stages of industrialization and urbanization. In general, countries start with low-cost manufacturing and processing trade, then gradually move up to higher-end manufacturing and services industries. Therefore, it might be practical for countries in transition to start by establishing manufacturing FEZs, which have controllable risks, and then gradually expand into trade and service-oriented FTZs or high-tech parks. However, to realize the industrial upgrading, the zones need to provide market-driven skills training and technology extension services. Meanwhile, it is important to maximize the spillover effects from FDI (Zeng, 2016b, 2019). This could be achieved through local supplier programmes and incentives for FDI projects to provide training, technology and know-how to local firms. In any case, it is important not to favour FDI over domestic investment. In this regard, Shanghai and many other cities in China may not have done enough. In many cases, local firms may face more constraints on expanding their capacities than FDI.

### **6.4. Strategic location**

FEZs should be located near ports or major infrastructure convenient for exporting. In the case of Shanghai, the FEZs have easy access to airports, seaports, waterways and highway networks, close to the major market in the Yangtze River Delta. This is important for any type of zone programme. In some developing countries, zone locations are not necessarily determined by market demand and its connectivity, but by other objectives, such as social or regional equality; in such cases, the location may be in a peripheral area with poor access to major infrastructure and markets, which gives little chance for the zone to succeed.

### **6.5. Starting with one or two zones first**

Given the heavy financial burden and associated potential risks of FEZs, an FEZ programme should be fully tested in one or two locations before it is expanded. In

Shanghai, owing to its high capacity and relatively affluent financial resources, many zones were implemented in a relatively short time span, but in most developing countries, this is not the case. Where public resources and government capacity are limited, it is better to pilot the zone in the most desirable location where the market demand is strong. In reality, though, many countries try to implement many zones at the same time. For example, in some African countries, each state or province is given the authority to open an SEZ regardless of their capacity and location. This can be a recipe for failure. Even China started with only four or five zones in the coastal region before the approach was rolled out more broadly (Zeng, 2010, 2011).

## **7. Conclusion**

This paper discussed the pros and cons of FEZs through a relatively recent case in China, in Shanghai, mainly through its pilot FTZ. While the Shanghai FEZs are in general successful, they also face many challenges in moving forward. These include the uncertain global economic and trade environment, difficulty in further opening up the services sector, and increasing their spillover effects. Given the increasingly competitive environment both domestically and internationally, these zones need to further strengthen their indigenous innovation capacity (Zeng, 2019).

It is also important to note that there is no one-size-fits-all approach, so Shanghai's experiences may not necessarily be transferrable directly to other countries. However, some common lessons may be applicable to other developing countries. These include building a conducive business environment through a reform-oriented approach; choosing the right location, which has good connectivity to major infrastructure and markets, and where private sector demand is strong; promoting industrial upgrading and maximizing spillover effects through skills training, technology services and local supplier programmes; and last but not least, starting with one or only a few zones to make sure they are successful before expanding more broadly.

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# The success and failure of Russian SEZs: some policy lessons

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This paper examines the economic efficiency of Russian special economic zones (SEZs) established by federal authorities since 2005. The results are mixed: the payback of SEZs is low, but they continue to attract residents; SEZs have greater attractiveness for foreign investment, but their sectoral structure is fundamentally no better than the country-wide structure; SEZs' enterprises have higher labour productivity than the country, but mainly owing to their recent creation. The common bottlenecks of SEZ development are the instability of legislation on SEZs, the low level of federal authorities' activity in SEZ development before the economic crisis, competition with other preferential regimes for investors and the long period of searching for the optimal system of SEZ management. Differences in the efficiency of particular SEZs are explained by the peculiarities of the territories where SEZs are established. SEZs are successful if they are created on sites that enjoy a favourable geographic position and in regions that have advanced levels of industrial development.

**Keywords:** Special economic zones, SEZs, Russia, foreign residents of SEZs, efficiency of SEZs

## 1. Introduction

Special economic zones (SEZs) have been established in many countries. There are many different types, which vary significantly in terms of countries' level of economic development, GDP structure, specialization in international trade, and sectoral factors. Many studies on SEZs have been conducted. We remember, for example, a long list of articles and even books on the rather successful experience of Chinese SEZs. Nevertheless, the Russian experience with SEZs is rather poorly studied. This fact can be explained by at least three reasons. First, the Russian

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Federation had an inefficient policy on SEZs for a decade and a half, not unusual both for the world and for the group of post-socialist countries. However, the Russian Federation did manage to introduce a new, more workable system of SEZs after 2005, which can be a source of experience for other countries. Second, the country combines many features of both high-income developed countries and developing and emerging economies. The models of SEZs also demonstrate a mix of very different economic and political features. It is interesting to follow the logic of economic policy in one of the “great powers” through the analysis of such a universal economic instrument as SEZs. Third, even the rather successful results of some Russian SEZs received strong official and public criticism. That led to the dismantling of some SEZs and the elaboration of new forms of territorial incentives for investors, especially in the far eastern region of the Russian Federation.

These considerations ultimately determine the structure of this article. First of all, we conduct a literature review, which shows gaps in the analysis of Russian SEZs. Then we present a short history of Russian SEZs. The main part of the paper is devoted to the results and efficiency of Russian SEZs and the reasons for these. We investigate only the federal SEZs established in accordance with the federal law of 2005. Thus, we do not study such unique cases as the SEZ in the Kaliningrad Oblast (it has existed in this Russian exclave since 1991 but special laws for it have been changed many times) and the SEZ in the Magadan Oblast (a de facto exclave due to the logistical gap with other Far East territories), the free economic zone in the Republic of Crimea and City of Sevastopol (established for both political and economic reasons after the re-unification of these territories with the Russian Federation in 2014) and the Innovation Center Skolkovo in Moscow (it was introduced by special federal law in 2010 and its regime resembles an SEZ regime, but it was never a part of the Russian SEZ legislative system). We also do not study preferential regimes for investors that are very close to SEZs and can be considered as such – territories of advanced social and economic development and free ports in the Far East. The federal laws on such regimes came into force only in 2015, and it is too early to talk about the results of this economic policy instrument. We consider only the federal policy of SEZ creation. Federal SEZs have a priori higher results than regional analogues, as they are created with the participation of authorities at all levels. Then we explain the contrasts between various SEZs. Lastly, we introduce some conclusions on the future development of Russian SEZs and main lessons for other countries.

## **2. Literature review**

It is typical for the Russian Federation that the majority of articles on SEZs are in Russian and only a few studies are published in English. Nevertheless, we will cite

predominantly English-language publications for the convenience of the readership. Exceptions are made to include the most important studies or where coverage of a particular topic is poor.

Assessments of Russian SEZs' efficiency in the 1990s were usually negative (e.g. Shekhovtsov et al. 2000; Kuznetsova 2002). Only the SEZ in the Kaliningrad Oblast could be seen as a special case (e.g. Zhdanov et al., 2002, Gareev 2013) and that is why we do not address its evolution, which was contradictory during the period observed. Foreign researchers came to the same conclusion about standard Russian SEZs before 2005: it was shown even by econometric methods that many free economic zones became mere shells and had very weak influence on the regional distribution of foreign direct investment (FDI) in the country (Iwasaki and Sukanuma, 2005). As a result, many publications before 2005 were devoted to promoting the foreign experience as ideal for the imperfect Russian reality (Smorodinskaya and Kapustin, 1994; Zimenkov, 2005).

After the introduction of a new system of Russian SEZs in 2005, there was a boom in Russian-language articles. Unfortunately, the majority of them are devoted to general information on the legislative regimes and economic features in SEZs of different types (e.g. Karchova and Kunakov, 2007). The most popular aspect of serious analysis is the role of SEZs in the Russian Federation's regional economic policy. Among Russian economists there is a general idea that SEZs affect only their local economies. A well-known Russian regionalist made a statement that all her attempts to estimate the direct influence of state support in SEZs on the dynamics of regional macroeconomic indicators had failed. Such estimates included testing correlations with industrial production in regions, total investment in regions, volumes of their foreign trade and intensity of R&D (Mikheeva and Anan'eva, 2011).

Another well-known Russian regionalist presented a good bibliography of Russian studies on SEZs but maintained that SEZs should be poles of economic development, however, had failed to achieve this task (Shvetsov, 2016). The most sophisticated analysis, which was based on a detailed comparison with foreign experience and case studies with semi-structured interviews of managers of five Russian SEZs of the industrial type (in the Tatarstan Republic, and the Sverdlovsk, Lipetsk, Samara and Pskov Oblasts) also showed that Russian SEZs (as well as industrial parks) cannot quickly form new industrial clusters (Sosnovskikh, 2017). But it is necessary to mention that Russian SEZs were not seen by the federal authorities as a means of cluster development only. Building technology chains, deepening processing, and localizing production (in the case of the automotive industry) were seen as no less important tasks.

Some experts follow the official methodology in their assessments of Russian SEZ efficiency (e.g. Yankov et al., 2016), which is only a comparison of official statistical aims with the current results of different SEZs. There is also a poorly done short

English-language article with good citations from other experts, in which two pages of analysis led to erratic findings (Maslikhina, 2016). Negative assessments of the real economic results of SEZs are explained to a certain extent by the lack of coherent statistics in the country, especially at the local level. Some Russian experts (e.g. Pavlov, 2009) have suggested interesting approaches to the evaluation of SEZ efficiency but have not managed to put them into practice.

We support alternative ideas. First, it seems incorrect to assess SEZs as a whole. SEZs differ greatly by their type and incentives for investors, their geographical position and the time of their creation. The real efficiency of SEZs can be calculated only for long-term periods, but the majority of Russian SEZs are only a few years old. We introduced a different approach three years ago (Kuznetsova, 2016b), in line with the newest international approaches in which SEZ performance evaluation considers three aspects: (i) SEZ programme (incentives package, requirements and programme characteristics), (ii) SEZ characteristics (maturity, size, operator and industry focus as well as distance to ports and largest cities, power supply in the zone and administrative support) and (iii) contextual factors such as institutional quality, access and proximity to markets, previous level of industrialization, income level and human capital (Frick et al., 2019).

Second, SEZs are an instrument of federal investment policy, they are the grounds for additional state investments in infrastructure and a sign of special attention by the federal authorities to the investment climate in the region of an SEZ's location. Limited efficiency of state investment policy is better than the total absence of such policy. Moreover, the role of SEZs should be assessed in comparison with other regional instruments of support for private investors (Leonov, 2017).

Unfortunately, SEZs are sometimes mixed with other territorially localized instruments of federal policy, especially by foreign analysts. First, federal SEZs should be separated from "territories of advanced social and economic development" (whose Russian abbreviation is TOSER), which were introduced by federal law in the spring of 2015. SEZs provide infrastructure and tax and customs incentives for greenfield projects in empty locations that should find residents. In contrast, TOSERs are established when state authorities can find particular investors. However, the establishment of SEZs can be a result of lobbying by companies from certain industries, such as car manufacturers and the SEZ in the Samara Oblast or titanium producers and the SEZ in the Sverdlovsk Oblast. Second, SEZs differ from technology or industrial parks, which provide no special federal tax incentives. Third, SEZs differ from several "gambling zones" (in Altai Krai, in Primorsky Krai, among others). The latter instrument has a social function rather than an economic one – to allow casinos, which were forbidden in other parts of the Russian Federation on 1 July 2009.

It should also be stressed that SEZs stimulate FDI and as such they are incentives for both regional development and foreign economic relations. Unfortunately, the connection of Russian SEZs with FDI is rarely investigated. The first thorough research was done by a well-known Finnish specialist in FDI who introduced SWOT (strengths, weaknesses, opportunities and threats) analysis of Russian SEZs in 2009 (Liuhto, 2009). His assessments were not very optimistic because announced tax incentives lowered investment barriers for foreigners, but the benefits alone were not sufficient to overcome foreign investor skepticism about negative features of the Russian investment climate.

It goes without saying that there are also some other aspects of the assessment of Russian SEZs. For instance, it is possible to look at SEZs not only as an economic instrument but also as an experimental area for legislation (Bublik and Gubareva, 2016). However, we will concentrate our analysis on the economic aspects of Russian SEZs.

### **3. The establishment of SEZs in the Russian Federation**

Prior to analysis of the efficiency of SEZs in the Russian Federation, it is necessary to describe in brief the history of SEZ creation in the country. Initial attempts to create free economic zones were made by the federal authorities in the early 1990s, but the overwhelming majority of the zones created did not really operate for obvious reasons:

- There was no budget to invest in free economic zone infrastructure because of the desperate economic situation.
- The federal authorities very quickly refused to provide investors with tax benefits owing to the inability to administer these benefits at that time.
- The majority of free economic zones were created in regions with very low investment attractiveness, which meant investing there was not feasible in the period of economic crisis.

The only exception was a free, then special economic zone<sup>1</sup> in the territory of the Kaliningrad Oblast. A special regime of economic activity in this region was introduced to compensate the exclave geographical location of the region.<sup>2</sup> This

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<sup>1</sup> In Russia “free economic zones” and “special economic zones” are synonyms. The term “free economic zones” was more common in the 1990s; nowadays economic zones are usually termed “special”.

<sup>2</sup> The Kaliningrad Oblast is the westernmost Russian region, separated from the rest of Russia by the territories of other states and international waters.

regime has been revised several times, but the SEZ in the Kaliningrad Oblast continues to function and is still justified by the need to ensure the dynamic economic development of the exclave Russian region.

Attempts to adopt a general federal law on free (or special) economic zones began in the late 1990s, but the federal law “On Special Economic Zones in the Russian Federation” and related amendments to the Russian Federation Tax Code were adopted only in the summer of 2005. The reason for such a long discussion on SEZ law was the dominance of liberal views on state regulation of the economy. Any preferential regimes for potential investors were denied even as instruments of regional policy (and there was almost no regional policy in Russia in the first half of the 2000s). Such liberal views on state regulation of the economy were also reflected in a number of features of SEZs: tax incentives for SEZ residents were initially insignificant and the number of SEZs was very small.

The preferential regime for investors in Russian SEZs is based on generally accepted approaches and consists of three elements: infrastructure construction for investment projects, tax and customs privileges, and simplification of the administrative regime (reduction of administrative barriers). The size of an SEZ depends on its type: the maximum size of industrial SEZ is 40 square kilometers, and of a technology SEZ 4 square kilometers. An SEZ can be located on several land plots, either in close proximity or in different parts of the region.

SEZ legislation in Russia has been revised many times. Even the federal law on SEZs has been changed more than 20 times. One important change was the increase in types of SEZs. In the first edition of the law there were two types – industrial and technology. In 2006-2007, the types of SEZs were supplemented with tourism and logistics SEZs (the latter can be created at seaports, river ports and airports).

By the beginning of 2019, the federal authorities had decided to create 11 industrial, six technology, 17 tourism and three logistics SEZs (the creation of each SEZ is formalized by government decree). However, of these 37 SEZs, 11 have been closed, and only 26 SEZs continue to operate. The possibility of early liquidation is allowed by the law if an SEZ does not secure occupants within three years of its creation. Most of the early liquidations were in ones for tourism, owing to inflated expectations about tourism development and the negligible incentives offered to investors.

On the whole, the changes in SEZ constitution reflect the general transformation of the federal economic policy. With the economic crisis that began in late 2008, the federal authorities abandoned their liberal views on state regulation of the economy and began to support entrepreneurs and investments much more actively. With respect to SEZs, the decision-making procedure for creating an SEZ was simplified, the number of SEZs significantly increased, requirements for the investment volume

of SEZ residents were reduced (such requirements are imposed on residents of industrial and logistics SEZs) and tax privileges for SEZ residents were expanded.

All these changes can be considered justified, but there are two negative points. The first is the instability of the SEZ legislation, which can cause concerns among investors. The second is that years of economic growth were lost, when more budget resources could have been spent to create SEZ infrastructure and when more investors could have been attracted. The federal authorities refused to make federal investments in the infrastructure of SEZs created since 2015 (such investments are made only at the expense of regional budgets or even in private industrial parks). The lack of investment by SEZ residents is particularly visible in the logistics SEZs, where significant investments are needed. As a result, only one SEZ of this type remains.

The Russian experience shows that, on the one hand, it is necessary to work out carefully the policy of SEZ implementation, so that there is no need to constantly adjust it. On the other hand, the process of developing and implementing SEZs as a tool to attract investors should not be delayed much in order not to miss a favourable economic situation.

#### **4. The results and efficiency of Russian SEZs**

Russian SEZs are administered by the Ministry of Economic Development, which publishes annual reports on their results. Data are published with some delay,<sup>3</sup> and there is a clear lack of information for comparing domestic and foreign investments. The ministry itself evaluates SEZ efficiency according to the methodology approved by the government, but we do not consider this evaluation meaningful. It is based on the comparison of actual and planned values of indicators and thus depends not only on actual SEZ results, but also on the quality of planning in the Russian Federation. The latter, as is well known, is far from satisfactory.

We evaluate SEZ operation on the number of SEZ residents, including those with the participation of foreign capital (it is the only indicator by which single SEZs can be compared); returns on the budget funds invested in SEZ infrastructure; the place of the SEZ in the country's economy and features of the SEZ in comparison with general economic parameters. As tourism and logistics SEZs are not particularly successful, we consider in detail only industrial and technology SEZs (table 1), which are also more typical of other countries.

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<sup>3</sup> The report on the activities of SEZ residents in 2017 was published on 29 June 2018 (<http://economy.gov.ru/minec/about/structure/depOsobEcZone/2018290632>).

**Table 1. Results of Russian SEZ operations at the beginning of 2018 (cumulative data from the start of SEZ operation)**

SEZ	Number of SEZ residents		Share of foreign investors in total residents (%)	Number of jobs created by SEZ residents	Ratio of capital investments of SEZ residents to budget investments in the SEZ	Ratio of tax and customs payments of SEZ residents to budget investments in the SEZ
	Total (1)	Number of foreign investors (2)				
Industrial SEZs total	197	80	41	13 315	3.0	0.72
Industrial SEZs in:						
Tatarstan Republic	64	28	44	6 389	4.2	1.36
Lipetsk Oblast	52	26	50	3 624	3.3	0.57
Samara Oblast	20	8	40	1 077	1.3	0.15
Sverdlovsk Oblast	14	2	14	133	1.5	0.03
Pskov Oblast	9	7	78	77	0.3	0.02
Kaluga Oblast	14	3	21	1 136	1.9	0.02
Astrakhan Oblast	8	2	25	216	0.6	0.54
Moscow Oblast	8	4	50	69	--	--
Tula Oblast	8	0	0	594	3.7	0.02
Voronezh Oblast	0	0	--	--	--	--
Technology SEZs total	374	39	10	14 464	0.5	0.22
Technology SEZs in:						
Moscow	44	5	11	5 191	0.4	0.18
Saint Petersburg	46	7	15	2 712	1.2	0.67
Moscow Oblast, Dubna city	137	9	7	3 383	0.8	0.09
Tomsk Oblast	72	10	14	2 045	0.2	0.20
Tatarstan Republic	61	6	10	959	0.0	0.01
Moscow Oblast, Fryazino city	14	2	14	174	--	--

-- = Budgetary investments in the SEZ infrastructure have not been made and/or SEZ residents have not yet begun to use tax and customs privileges.

Source: Compiled from legal database (<http://www.consultant.ru>), data of the Ministry of Economic Development of Russia (<http://economy.gov.ru/minrec/about/structure/depoSobEczZone/2018290632>).

In general, Russian SEZs show mixed or even contradictory results.

The ratio of SEZ residents' investments to budget investments in SEZ infrastructure is relatively good only in the first two industrial SEZs – in the Tatarstan Republic and the Lipetsk Oblast. Except in these two, the volume of SEZ residents' investments exceeds the volume of federal budget investments only in the technology SEZ in St. Petersburg. Budget investments are “paid back” only in one industrial SEZ – in the Tatarstan Republic (where the volume of tax and customs payments of SEZ residents exceeds the volume of budget investments in SEZ infrastructure).

At the same time, the majority of SEZs are far from achieving a standard payback period. Moreover, several SEZs were increased in size and in some cases the new land plots are situated relatively far from the original ones, which inevitably implies the need to build new infrastructure for SEZ residents (for example, in July 2015 it was decided to create the second SEZ site in the Lipetsk Oblast some 30 kilometers away from the first site). The results of Russian SEZ operation are also not static as new residents continue to register in SEZs, including those created in 2005. Not all SEZ residents have managed to start production or even construction of plants. So, at the beginning of 2018, only about 42 per cent of SEZ residents had reached the stage of operating activities and a little more than 10 per cent of the projects were at the construction stage. Almost half of SEZ residents were at the design stage and land management (26 per cent) or even at the initial stage of the project (22 per cent).<sup>4</sup>

The role of foreign capital in SEZs is higher than in the Russian economy as a whole. In the country as a whole, foreign investors have increased their interest since 1999, when economic growth began. Since 2000 the share of Russian property has fluctuated around 80 per cent, and that of foreign and joint (Russian and foreign) property around 20 per cent. Foreign and joint forms of ownership peaked in 2005-2006 (about 25 per cent of total) and decreased during the years of economic crisis (to 15-17 per cent in some years). It is worth noting that sanctions did not have a major impact on the investment structure.

At the beginning of 2018, investments of SEZ residents with Russian capital amounted to only 39.7 per cent of the total stock of SEZ residents' investments, while investments of SEZ residents with foreign participation amounted to 60.3 per cent. But the situation is different for different SEZs, and such differences are explained by general peculiarities of FDI in the Russian Federation.

The main reason for FDI inflows to the country is to gain access to the large domestic market (Kuznetsov, 2013). As a result, foreign investors' factories

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<sup>4</sup> Calculations from data of Business Navigator for Special Economic Zones in Russia – 2018 (<http://economy.gov.ru/minec/activity/sections/sez/201805121>).

being built in the country are usually quite large enterprises for the production of consumer products. Industrial SEZs are very suitable for such large investment projects (before the crisis, the minimum volume of an SEZ resident's investments had to be at least €10 million; in the crisis of 2011 this volume was reduced to €3 million. Then the minimum requirement was set in roubles and, because of the devaluation of the rouble, it was reduced to €1.6-1.7 million). As a result, the share of residents with the participation of foreign capital in industrial SEZs as a whole exceeds 40 per cent.

The second important reason for FDI inflows to the country is to gain access to natural resources. However, raw materials production in SEZs is prohibited.

The inflow of foreign investors for the implementation of innovative projects is not typical for the Russian Federation. There are foreign investors in technology SEZs, but they are few and their projects, as a rule, are also relatively large-scale and produce for the domestic market. Technology SEZs usually have at least two sites: one for small companies in the form of business incubators and the second for industrial enterprises producing high-tech goods.

The national structure of FDI in SEZs has some similarities with the FDI stock structure, but there are also noticeable differences (table 2). In the structure of FDI, the role of offshore jurisdictions and flag-of-convenience countries is significant.

**Table 2. Structure of SEZ residents' investment stock by country at the beginning of 2018**

Country	Share of all SEZ residents' investments (%)	Share of investments of residents with foreign participation (%)	Share of FDI stock in the Russian Federation (%)	Country's rank in terms of FDI stock in the Russian Federation
Total	60.3	100.0	100.0	
Netherlands	21.9	36.3	8.6	3
Cyprus	6.7	11.0	32.7	1
Germany	5.6	9.3	3.6	8
United States	4.3	7.2	0.7	19
Switzerland	4.1	6.8	2.8	11
Japan	3.4	5.7	0.4	22
Turkey	2.5	4.1	0.3	24
Denmark	1.8	3.0	0.2	30
Belgium	1.7	2.9	0.2	28
Italy	1.0	1.6	0.9	16
Rest	7.3	12.1	49.6	

Source: Based on data from the Central Bank of Russia and Business Navigator for Special Economic Zones in Russia – 2018 (<http://economy.gov.ru/minec/activity/sections/sez/201805121>).

The share of such countries is more than 75 per cent (Cyprus, Luxembourg, the Netherlands, Bermuda, Ireland, the Bahamas, and the United Kingdom are the leaders; Switzerland, British Virgin Islands, and Jersey are also in the top 20). In the structure of SEZ residents' investments, the share of such capital is lower, and the obvious offshore location, Cyprus, occupies the second place. The role of countries with real investments, by contrast, is significantly higher. The shares of different countries in SEZ investments and in the FDI stock in Russia as a whole are different, but it is hardly possible to explain these differences.

Russian legislation on SEZs does not differentiate Russian and foreign investors. In creating SEZs, a focus on foreign investors has never been declared. The official registers of SEZ residents do not even indicate the origin of capital (in the table we have provided all available information on foreign investments in SEZs).

The contribution of SEZs to the entire Russian economy obviously cannot be high owing to the very small number of SEZs, especially those that have been operating for a long period. The contribution of SEZs to the economy of regions where they have been created is more noticeable (table 3) but not dominant. At the same time, labour productivity in SEZ enterprises is on average double the rate than in overall manufacturing (both in the country and in the regions where SEZs are created). This indicator is 2.6 times in the Tatarstan Republic, where the SEZ was established more than 10 years ago and developed in one district. In the Astrakhan Oblast the indicator is 6.5 times. Differences between SEZs are largely determined by the structure of the regional economy. Thus, in the Lipetsk Oblast, the quite prosperous

**Table 3. Role of SEZs in manufacturing of regions where industrial SEZs are created**

Subject of the Russian Federation where industrial SEZs are created	Number of jobs in manufacturing of the region, persons	Share of jobs created by SEZ residents in all jobs in the region (%)	Share of SEZ residents in manufacturing in 2017 (%)
Tatarstan Republic	345 780	1.85	4.88
Lipetsk Oblast	101 327	3.58	2.63
Samara Oblast	318 529	0.34	0.31
Sverdlovsk Oblast	413 676	0.03	0.09
Pskov Oblast	44 658	0.17	0.01
Kaluga Oblast	117 181	0.97	0.29
Astrakhan Oblast	44 159	0.49	3.21
Moscow Oblast	599 942	0.01	0.00
Tula Oblast	150 207	0.40	0.00
Cumulatively in specified regions	2 135 459	0.62	1.18
Total in Russia	10 173 196	0.13	0.26

Source: Authors' calculations based on data from Rosstat and the Ministry of Economic Development of Russia.

steel industry plant plays the dominant role in the economy, and in the Astrakhan Oblast, mineral mining dominates while manufacturing has a relatively low level of development.

The higher level of labour productivity in industrial SEZs in comparison with all manufacturing is explained mainly by the simple fact that all enterprises in SEZs are new and therefore have relatively modern equipment (all Russian SEZs are greenfield projects). The sectoral structure of SEZ enterprises does not play an important role. According to the federal law on SEZs, enterprises in industrial SEZs can produce almost any product. The only restrictions are on developing mineral resources and producing and processing excisable goods such as alcohol, tobacco, fuels and lubricants. As a result, the specialization of SEZs enterprises covers a very wide range, from simple activities to complicated ones (table 4). This makes it possible to attract the maximum number of investors. In the face of the economic sanctions against the Russian Federation, the federal authorities want to develop import substitution options and are ready to support production of a wide range of goods – not only for the sake of economic security but also to create new jobs. On the other hand, the federal and regional authorities are increasingly concerned about the support of investment projects, the implementation of which can lead to overproduction and, consequently, to problems for the enterprises themselves.

Thus, the results of SEZ operation are mixed: the payback of SEZs is low, but they continue to attract residents; SEZs are characterized by increased attractiveness for foreign investors and by a reduced role for offshore capital, but the sectoral structure of foreign investment is fundamentally no better than that of the whole country; and SEZ enterprises have higher labour productivity but mainly due to the recent terms of creation and to not including to high-tech industries.

## **5. The reasons for the success and failure of Russian SEZs**

We believe that the mixed results of the Russian SEZs are owing to the fact that there have been both successful and disputable – or even incorrect – decisions in the Russian policy for creating SEZs.

In our opinion, the Russian authorities have made the right decision not to focus on foreign experience in supporting export-oriented industries in SEZs, since the Russian Federation is attractive to foreign investors primarily for its capacious consumer market. The country is not very competitive for the location of export-oriented production of TNCs – due to the relatively high level of wages, not very comfortable natural and climatic conditions (as the relatively cold climate leads to an increase in the cost of construction and heating of buildings) and the remoteness of

**Table 4. Sectoral structure of projects of industrial SEZ residents**

Sector	Total	Tatarstan Republic	Lipetsk Oblast	Samara Oblast	Sverdlovsk Oblast	Kaluga Oblast	Pskov Oblast	Astrakhan Oblast	Moscow Oblast
Total	195	64	57	21	12	16	9	8	8
Transport engineering	35	11	8	12	2			2	
Building materials and packaging	33	15	9	2	1	2	2	1	1
Chemical technology	25	12	6	1	1	3	1	-	1
Agricultural and food industry	24	6	9	-	-	2	2	2	3
Power industry	21	4	10	-	2	1	3	1	-
Metal industry	14	4	6	-	3	1	-	-	-
Consumer goods	14	7	1	1		2	-	-	3
Pharmaceutical and medical industry	10	1	-	3	2	2	1	1	-
Nanotechnology, new materials	7	1	3	1	1	1	-	-	-
Wood industry	4	1	-	1	-	2	-	-	-
Instrument making	3	1	2	-	-	-	-	-	-
Logistics	3	1	2	-	-	-	-	-	-
Information technology	2	-	1	-	-	-	-	1	-

Source: Compiled from SEZ passports, <http://www.russez.ru/press/news?rid=24811&oo=1&fid=66&newWin=0&page=1&rm=120219&ksl=view.xsl> (published on 15 January 2018).

many regions from seaports. The geographic considerations of product deliveries from SEZs to the domestic market or for export are not discussed by the federal government. In the official assessment of SEZ efficiency there has never been an indicator for products exported outside the region where the SEZ is located.

This does not mean that the Russian experience with SEZs, focused on import substitution instead of export promotion, should be implemented in other countries. But this experience shows that for successful SEZ development, it is important to take into account the current features of the investment climate and economic potential of the country, as well as emerging trends of economic development. Otherwise, SEZs may produce no results. However, SEZs should contribute to significant changes in the economy. So SEZs should have ambitious but realistic objectives.

The conclusion about the importance of the potential for economic growth and attracting investors is also confirmed by the differences in results of separate Russian SEZs. They were created in areas which differed greatly by the level of economic development, economy structure and investment attractiveness. The motives for SEZ creation were also different. The Tatarstan Republic and the Lipetsk Oblast were selected as territories with the best conditions for investors. The SEZs in the Sverdlovsk and Samara Oblasts appeared within the framework of the federal anti-crisis policy to support single-industry towns. The SEZ in the Pskov Oblast and the early-liquidated SEZ in the Primorsky Krai, were established to support economically backward regions, while in the Kaluga Oblast the SEZ was a reward to the regional authorities, who demonstrated notable success with their investment policy. The SEZ in the Astrakhan Oblast was an import substitution project. The SEZs in the Moscow, Tula and Voronezh Oblasts were created in order to support industrial parks that already existed at the time of the relevant decisions.

An analysis of the results of industrial SEZs shows that they are successful when they have been established on sites with a favourable geographical position and in regions of advanced industrial development. For technology SEZs, innovation potential is also important.

The industrial structure of the region where the SEZ is created has an important impact on the SEZ results. Regional plants could be consumers of the SEZ products or, conversely, suppliers of raw materials or components. It is also important to have qualified staff in certain industries and appropriate training programmes in regional educational institutions. The most striking example is the SEZ in the Samara Oblast, which was created near the largest Russian car plant. Here, more than half of residents (12 of 21) specialize in the production of auto components (table 4). And among these 12 residents there is no one with Russian capital only, they are all either foreign investors or joint ventures.

Branch specialization of SEZ enterprises in the Tatarstan Republic and the Lipetsk Oblast is much more diverse. At the same time, in the Tatarstan Republic there are many enterprises in the car industry and in petrochemicals, which are the traditional industries in the region. A number of plants in the Lipetsk Oblast use the products of a large steel plant, NLMK (<https://www.nlmk.com/en/>). By contrast, the Pskov Oblast is notable for its low level of economic development. There are no complementary industrial enterprises there, and the SEZ has relatively poor results.

The importance of geographical location is best illustrated by the example of the Kaluga Oblast. This region is the generally recognized leader in the quality and success of the investment policy of the regional authorities.<sup>5</sup> By the time the SEZ was created, the Kaluga Oblast had already attracted a lot of investors, including foreign ones, also thanks to the proximity of a large Moscow sales market (the Kaluga Oblast bordered the so-called New Moscow). Investors had built their enterprises mainly either in or near Kaluga, or in areas bordering the capital region. For the SEZ, a peripheral area was chosen – Lyudinovo town and Lyudinovo district. This decision was theoretically impeccable because the regional authorities wanted to reduce the disparities in economic development of the municipalities. However, in practice, attracting investors to the SEZ turned out to be problematic. Unsatisfactory logistics were cited as the main reason for the unattractiveness of Lyudinovo for businessmen. As a result, in 2015, it was decided to create a second SEZ site, this time in the Borovsk district close to Moscow.

A similar situation exists in the Sverdlovsk Oblast. Here the SEZ was created almost 180 km from the administrative center of the region, which in itself is not particularly attractive to investors (especially foreign ones). This is a region of the Urals that is remote from seaports (important for the import of components) and situated on the periphery of the European part of Russia (the main market for consumer goods). Therefore, in August 2018, it was decided to create a new SEZ site – in Yekaterinburg (the administrative center of the Sverdlovsk Oblast, a city of a million plus) and its suburbs.

Such differences between territories with SEZs are possible because the federal law on SEZs does not have a clear answer to the question of how to choose the regions in which SEZs should be created. The law says only that the proposal to create an SEZ should contain a justification for the expediency and efficiency of its creation for solving problems of federal, regional and local significance. The lack of clearly defined criteria for the selection of regions came about because among

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<sup>5</sup> This means that the failures of the SEZ cannot be explained by the inability of the authorities to work with investors (policy is often cited as a reason for the low investment attractiveness of some Russian regions).

experts there was no understanding of where SEZs should be. Studies of foreign experience showed different approaches between economically developed and developing countries:

- In developing countries, SEZs were created mainly to solve general economic problems and they were focused mainly on foreign investors. As a result, SEZs were located in regions with the highest investment potential (usually the most economically developed).
- In economically developed countries SEZs were more often an instrument of regional policy. Therefore, they were created in “problem” regions.

There was no evident answer to the question about which experience was more relevant for Russia. On the one hand, the Russian experience of the 1990s showed that free economic zones set up in problem regions had no effect in improving the situation of those regions, because they did not attract any investors. On the other hand, the economic situation of the first half of the 2000s differed greatly from that of the 1990s. Therefore, it was decided not to solve the issue in the federal law on SEZs. Most likely, this was the right decision, providing the necessary flexibility in decision-making in different periods of economic development.

When developing legislation on SEZs it is important to bear in mind that the conditions in the country can change in just a few years, therefore, the objectives of SEZ creation can also change. The legislation should give some flexibility in decision-making, and not only in terms of the choice of territories for SEZs. In the 2000s and even in the early 2010s, it was quite reasonable to provide state support for almost any kind of production (except mining, alcohol and tobacco). Then it was important to overcome the consequences of the crisis of the 1990s, to eliminate the deficit of domestic consumer goods. At the level of economic development the Russian Federation has enjoyed in recent years, it makes no sense to support production that has already been developed in the country and does not lead to the emergence of high technology and new industries. It is therefore necessary to make changes to the law on SEZs. It would be better if the activities supported were regulated by decisions on individual SEZs (in less developed regions state support of activities is still relevant). The lack of flexibility in Russian legislation on SEZs also led to the federal authorities having to create analogues of SEZs for specific regions, rendering the investment support system extremely complicated even for domestic investors, not to mention foreign ones.

The instability of the legislation on SEZs and the lack of consistency in SEZ policy reflect shortcomings on the part of the Russian federal authorities. Instability of legislation may worry investors and tracking the changes is onerous and time consuming.

Moreover, Russia has a negative experience of introducing economic policy instruments that compete with SEZs, with more attractive sites for investors created next to SEZs. This happened in the Far East region: it was decided to create three SEZs there, but all were liquidated early as territories of advanced development and free ports appeared. Such situations not only reduce investment attractiveness but also lead to inefficient use of resources. Even while the authorities did not invest in SEZ infrastructure they still carried out the costs of SEZ project preparation, management activities, and the like.

The flexibility of the legislation on SEZs does not preclude the need for thorough elaboration of individual SEZ projects, including proposed SEZ sectoral specialization, the formation of clusters, and the integration of SEZ enterprises into the economy of a region. In addition, the efforts of the authorities to find the first anchor investors for the SEZ are important. First, foreign investors often prefer to choose regions not on the basis of existing estimates of their investment attractiveness, but on the presence of foreign investors that are already active. Second, thanks to anchor investors, clusters or value chains are built even without much effort by state authorities. One example is the SEZ in the Lipetsk Oblast. First came the Belgian steel cord manufacturer Bekaert (attracted by NLMK of Russia), then the Japanese tyres manufacturer Yokohama, and then the Chinese automotive plant Lifan.

The attractiveness of the SEZ depends on the preferences provided to investors. Tax benefits are important for SEZ residents, but they do not matter much without the necessary infrastructure. This is especially true for those countries where investors face infrastructure constraints (such as the Russian Federation). In some cases infrastructure is even more important than tax benefits. Thus, in industrial SEZs tax benefits were not significant in the pre-crisis period. But the obvious advantage of such SEZs was the presence of land provided with all the necessary infrastructure for an industrial enterprise, and often with free grid connection (which does not come standard in Russia). A negative factor for the SEZ development in the Sverdlovsk Oblast was the delay in the construction of its infrastructure (initially it was assumed that it could be completed without contribution from the federal budget but regional resources were clearly not enough and federal funds were allocated; however, this occurred only three years after the creation of the SEZ).

In this context, we can also cite the example of the wide-area SEZ in the Kaliningrad Oblast. In 2006, new legislation on this SEZ was adopted, providing large-scale tax benefits for investors. However, investment in the Kaliningrad region did not happen, and many potential investors (even those who registered as SEZ residents) commented about their inability to implement investment projects precisely because of the infrastructure constraints.

At the same time, as the Russian experience shows, there is not always a need to invest public funds in infrastructure. In recent years, SEZ projects in which the infrastructure is built at the expense of private investors have been quite successful, while the state provides only tax and customs benefits. In such cases SEZs are created in private industrial parks. This scheme allows private investment in industrial parks to pay off faster, as land and premises begin to enjoy higher demand among investors. However, for the implementation of such a scheme it should be private developers who invest in the creation of private industrial (or technology) parks.

The Russian experience also shows that in conditions of weak economic institutions, high levels of administrative barriers or even corruption, it is very important to introduce an effective SEZ management scheme in which the SEZ administration is truly interested in the success of the SEZ. In Russia, this problem could not be solved readily, and there was a long period of searching for the optimal model of SEZ management.

Initially, a special federal agency for SEZ management was created. The territorial units of this agency (i.e. federal officials) were responsible for the management of individual SEZs. This decision was explained by the need for federal control over federal investments in SEZ infrastructure and over the use of tax preferences, because there were concerns about the possible transformation of SEZs into domestic offshore centers. However, it quickly became clear that federal officials did not have enough interest in the development of regions. Then in 2010, the functions of SEZ administration were transferred to the 100 per cent state-owned JSC SEZ or, more precisely, to its subsidiaries and affiliates. But this decision was not the most reasonable, since state corporations were also not always interested in the development of territories (it was sometimes more profitable for them to store funds as bank deposits). Finally, management of individual SEZs was transferred to regional authorities as the entities most interested in the economic development of territories. Many experts believed that this decision should have occurred at the very beginning of the creation of new SEZs; however, this happened only in 2016.

When developing SEZs, it is important to establish effective cooperation between the national government and subnational (regional, local) authorities. This is especially important in those countries where subnational authorities have essential powers in the economic sphere, first of all in federal countries. The involvement of subnational authorities in SEZ development is important for several reasons:

- It is standardly accepted that “bottom-up” territorial development, for example, the elaboration of “smart specialization” is supposed to occur at the level of territorial authorities.
- Significant for investors, taxes are often revenues for subnational budgets, so it is important to establish tax benefits correctly in subnational legislation (subnational

authorities must agree on declining revenues). In the Russian Federation, SEZ residents receive benefits that include reductions on the profit tax, property and land taxes, and social dues for technological activities. The property tax is regional, the land tax is local, and the largest part of the profit tax is revenue for regional budgets.

- Regional authorities can work directly with foreign investors. For example, the SEZ in the Tatarstan Republic has established several enterprises with the participation of Turkish capital. This is owing to the special ties between Turkey and Tatarstan, based on their cultural and historical proximity<sup>6</sup> (and this is another, albeit particular, illustration of the influence of regional peculiarities on SEZ results).

Therefore, in the Russian Federation, the formal decision to create an SEZ is made by federal government decree. But the initiative to create an SEZ must necessarily come from regional authorities (together with local ones). After the adoption of the decree, an agreement is signed between the federal and regional authorities, in which the regional authorities undertake obligations for the development of the SEZ, including the establishment of tax benefits. Federal tax legislation establishes a minimum amount of tax benefits, and regional authorities can expand them (they must determine the profits tax rate, they may extend the term of benefits for property and land taxes, and they may provide benefits related to the transportation tax).

Additional contributions to the attraction of foreign investors can be provided by measures that do not seem directly related to investment support, but which make the SEZ more attractive. These primarily relate to an improvement in the comfort of life; this is not particularly relevant for economically developed countries (where the level of social development is high), but it is very important for lower-income countries. For example, in Dubna (in the Moscow Oblast), additional efforts by local authorities are being made to create comfortable conditions in rental housing for foreign specialists. A rental housing market exists, but there is practically no rental business, as apartments are rented by individuals and scattered throughout the housing stock. It is important to ensure that foreign specialists and their families have access to medical and educational services. For example, an international school is being created in Tatarstan.

Finally, to ensure a significant contribution of SEZs to the country's economy, the number and/or scale of SEZs should be appropriate. For a long time in Russia there were only two industrial SEZs and four technology ones. There are still only five technology SEZs. Of course, the results of these SEZs are miniscule given the scale of the Russian economy and the significant size of the territory. This is confirmed

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<sup>6</sup> The detailed analysis of Turkish investment in the Russian Federation is in Kuznetsova (2016a).

by the fact that a number of foreign investors have several plants in Russia that produce products oriented to the markets of different macro-regions.<sup>7</sup>

## 6. Concluding remarks

The results of different Russian SEZs vary greatly. In general, success is achieved if the SEZ is created in territories attractive to investors. The state investment policy is based on successful actions in three areas: (1) providing investors with a plot of land with the necessary infrastructure, (2) extending financial support to investors (mainly through tax and customs benefits), and (3) enabling a comfortable administrative environment. Although we did not consider areas of state investment policy other than SEZs, the Russian experience shows that this rule of three generally applies for all its instruments at both the federal and regional levels (although forms of financial support may vary). Indeed, the failures of individual SEZs are associated with the absence of one or more of these conditions.

The experience of creating SEZs is important for countries with developing economies. It is an institution within which it is possible to solve, at least to a limited extent, the problems of insufficient investment attractiveness of countries: to concentrate funds on the development of infrastructure, the level of which is generally insufficient; to create more attractive financial conditions for investment, in the face of a lack of investment resources in the country; to overcome at least locally the problems of administrative barriers and even corruption. However, solving the latter problem requires the commitment of the SEZ management bodies.

The main lessons from the Russian experience with creating SEZs are the following:

- The policy of creating SEZs should be based on foreign experience but take into account the specific features of the host country, most of all the level of development and the structure of the economy. SEZs should be aimed at achieving new economic objectives, but these objectives should be realistic.
- The basic legislation on SEZs should be flexible, allowing for modification of the SEZs depending on the prevailing economic situation, the characteristics of a particular territory (for example, to develop relatively simple activities in economically backward regions and high-tech ones in relatively developed regions; to vary the scale of investor support depending on the development

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<sup>7</sup> For example, one of the first SEZ residents in Tatarstan was Danish manufacturer of building materials Rockwool. By the time the decision was made to build a plant in the Volga region (where Tatarstan is located), Rockwool already had two plants near Moscow and St. Petersburg, two of the largest Russian cities. Now the company has one more plant in the Urals.

level of the regions). Plans for the development of individual SEZs should be well worked out.

- Plans for the development of specific SEZs should take into account the prevailing structure of the economy of the territory, which determines the availability of human resources and the possibility of clustering and building value chains. It is also important to plan for the search for anchor investors for SEZs.
- Consistency in the implementation of the SEZ development policy is necessary in order to ensure the stability of the conditions of investors' activity and to achieve maximum efficiency of state policy (in particular, competition of different preferential regimes is not justified).
- SEZ residents should enjoy a sufficient level of state support. At the same time, for countries where investors face infrastructure constraints, overcoming such constraints is even more important than offering tax and customs privileges.
- Budget investments are not always necessary for infrastructure development. It may be quite successful to extend tax and customs privileges and other preferential conditions for residents in private industrial or technology parks.
- In conditions of weak economic institutions, a high level of administrative barriers, or even corruption, it is very important to implement an effective scheme of SEZ management, in which the SEZ administration is truly interested in the successful development of the SEZ. In Russia the regional authorities appeared to be the most interested stakeholders in SEZ development, but in other countries the situation may be different.
- In large countries, it is also important to establish effective cooperation between the national government and subnational authorities to ensure the participation of the latter in the development of SEZs.
- In countries with an underdeveloped social sphere, social policy measures can make an additional contribution to attracting foreign investors by providing employees of foreign companies and their families with comfortable living conditions, quality medical care and educational services.
- To ensure a significant contribution by SEZs to the country's economy, the number and/or scale of SEZs should be appropriate.

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# Special economic zones: methodological issues and definition

François Bost\*

Over the decades, the universe of special economic zones (SEZs) has become considerably more complex with the multiplication of “zones” with new and modified objectives. This research note has two objectives. First, it provides a more complete clarification of terminologies in use. This is intended to facilitate the identification of the different types of SEZs – a term that UNCTAD's World Investment Report 2019 (WIR 2019) utilizes as generic concept – and to highlight the key differences between SEZs and free zones, the term in popular use prior to WIR 2019. Second, this research note describes the key differences between SEZs and free zones by major geographical regions and countries.

**Keywords:** Export processing zones, free trade zones, free zones, globalization, special economic zones

## 1. Introduction

The growth of special economic zones (5,383 SEZs across 147 economies in 2019) worldwide (UNCTAD 2019), particularly in developing countries, is one of the major features of contemporary globalization. However, the use of special economic zones (SEZs) as a generic term is very recent, clearly coinciding with the publication of UNCTAD's World Investment Report 2019 (WIR 2019), which defines them as “geographically delimited areas within which governments facilitate industrial activity through fiscal and regulatory incentives and infrastructure support” (UNCTAD 2019, p. 128). Before the WIR 2019 was published, it was more common to use the term “free zones” and “export processing zones” in most academic work and publications, although several publications had already begun to popularize the term SEZ (Farolle and Akinci, 2011; OECD, 2014).

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This change in terminology is not simply a substitution of synonymous terms. However, it does reflect the need for clarification in the face of considerable multiplication of different terms to describe what is a complex phenomenon.

This research note presents the important issues underlying the change in terminologies based on a detailed analysis of the different definitions in use, and that are useful to know to better understand the subject (Section 2). Section 3 presents a comprehensive count of SEZ and free zone activity around the world.

## **2. Special economic zones / free zones: how do they differ?**

While the issue has never really been systematically discussed, the search for a generic term has been ongoing for several years, in the face of the growing complexity of zone-type models and consequent misunderstandings that have arisen. A count carried out in 2019 listed no less than 82 different terms to designate zones<sup>1</sup>, the majority of which are used in a single country. To further complicate matters, the same country may also use several different terms to describe similar types of zones in its legislation and publicity.

### **2.1. SEZs: a new generic term**

The reason for this “terminological anarchy” is threefold. First, a lack of knowledge about the terminology used by different countries. Second, the desire of many countries to stand out from the rest by proposing different terms that more accurately reflect local realities. Third, the aspiration to present these SEZs in a more modern way (for instance, to take advantage of the vogue for “technology parks”), and at the same time to veil the bad reputation of free zones during the 1970s and 1980s. Indeed, the implementation of free zone programmes has often been accompanied by numerous abuses, particularly in terms of respect for labour rights (including the prohibition of unionization in free zones, laxer rules on working conditions and absence of sanction against unfair dismissals).

However, the abundance of terms used makes it difficult for potential investors (domestic and especially foreign) to understand the nature of the zones or to compare countries. The adoption of the term “special economic zones” is intended to be more encompassing than “free zones”, which no longer reflected the very wide variety of new “zones”, especially those oriented towards specific technologies and new services (eg. health, tourism, security) and sustainable development. These include high-tech parks, science parks, science and technology zones,

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<sup>1</sup> Bost database, based on data from 160 countries.

free economic zones, tourism development zones, green zones and safe zones, among others. However, it remains to be seen if the term SEZs will be adopted by all countries in order to facilitate greater terminology harmonization. Indeed, there is no recommendation to this effect in the UNCTAD report, which means that its systemization as a generic term will depend on voluntary uptake by country authorities.

Moreover, the term SEZs does not solve all problems. It is ambiguous because it originally referred to a very particular type of free zone, characterized by their very large size (several hundred km<sup>2</sup>), particularly in China (e.g., Shenzhen), India and Russia. Since early 2010, the term has also been used by China to designate the vast free zones it builds and manages in several developing countries, particularly in sub-Saharan Africa. Only 35 countries commonly used the term SEZs in 2019, although in most cases the size of these zones is quite comparable to that of traditional free zones.

The term SEZs therefore has two different meanings. It can denote a zone model in the narrow sense of the word (that of the type of sizeable free zone as is found in China); or it can denote the new generic term proposed by UNCTAD to designate all types of zones open to investors.

The expression SEZs is a good alternative to free zones, because it makes it possible to differentiate between new “zones” (dedicated to technologies, sciences and advanced services) and common industrial parks and other industrial estates, which are numerous in the suburbs of almost all cities in developed and developing countries, but without distinct regulatory frameworks (zoning laws only). For this reason, they cannot be counted as SEZs.

## **2.2. Free zones remain at the heart of the SEZ system**

The generic term “free zone” can be defined as an area of variable size, in which authorized companies are exempt from the normal regime applicable in the host country, in particular with regard to customs (or even taxation where the country so authorizes)<sup>2</sup>. In return for this concession and other benefits, countries expect these companies to create large numbers of jobs, stimulate domestic exports and help diversify the economy by introducing new sectors of activity into it (Bost, 2010).

The use of the term SEZs relegates the term “free zones” to a subtype, with the specific characteristic of being separate customs territories (UNCTAD, 2019). Indeed, a free zone offers its users reduced or no customs duties for goods that

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<sup>2</sup> The term “free zones” has not been adopted by all countries as the generic reference term. Only about sixty countries use it commonly, most often in parallel with other terms that are officially used.

are manufactured, assembled or are simply in transit. This makes it possible to differentiate them without hesitation from other types of SEZs. Free zones are still the most prevalent subset within the vast group of SEZs: 2,296 free zones, or 42.6% of the world total of SEZs in 2019 (Table 1).

The various kinds of free zones have a long history, which explains why there are so many definitions. The definitions vary according to the combination of benefits conferred and certain other nuances. In addition to customs advantages, tax advantages are also significant, although they are no longer as prevalent as in the past. Indeed, under pressure from international organizations, many countries have reviewed their taxation regimes and largely revoked tax benefits enjoyed by zone-based companies in order to reduce distortion of competition (Bost, 2010; Farole and Akinci, 2011). This trend first affected emerging countries and then

**Table 1. Distribution of free zones and special economic zones by major geographical area in 2019**

	Number of free zones (Bost database)	Percentage of total	Number of SEZs (UNCTAD)	Percentage of total
<b>Global</b>	<b>2 296</b>	<b>100</b>	<b>5 383</b>	<b>100</b>
<b>Developed economies</b>	<b>295</b>	<b>12.9</b>	<b>374</b>	<b>7</b>
<i>United States</i>	191	8.30	262	4.70
<i>Europe</i>	85	3.70	105	2
<b>Developing economies</b>	<b>1 869</b>	<b>81.40</b>	<b>4 772</b>	<b>88.60</b>
Africa	215	9.40	237	4.40
Asia	1 196	52	4 046	75
<i>Philippines</i>	385	16.80	528	9.80
<i>China</i>	135	5.90	2 543	47.20
<i>Malaysia</i>	45	2	45	0.83
<i>India</i>	231	10	373	7
<i>United Arab Emirates</i>	47	2	47	0.90
Oceania	1	0.04	3	0.05
Latin America and the Caribbean	457	19.90	486	9
<i>Colombia</i>	101	4.40	101	
<i>Dominican Republic</i>	71	3.10	73	1.30
<b>Transition economies</b>	<b>132</b>	<b>5.70</b>	<b>237</b>	<b>4.40</b>
<i>Russia</i>	39	1.70	130	<b>2.40</b>

Source: Bost F., 2019, University of Reims and UNCTAD, World Investment Report 2019.

Note: This table includes single factory free zones but does not include free points.

spread to some middle-income countries. The abandonment of these tax benefits in free zones was negotiated by individual countries member to the World Trade Organization (WTO), so tax rates applied to free zones are now generally identical to rates applied outside zones. However, the tax advantages granted to companies located in free zones remain in force in many least developed countries (LDCs), so that they can maintain their attractiveness to foreign investors.

In 2015, the World Free Zones Organization (WFZO), the largest federation of free zones, proposes the following definition:

*“A Free Zone is an area designated by one or more government(s)<sup>3</sup> where economic activities, whether production or trade, physical or virtual with respect to goods, services or both, are permitted and relieved (totally or partially) from customs duties, taxes, fees or with specific regulatory requirements that would otherwise apply”* (WFZO (2015).

The European Union, which does not yet use the term SEZs in a generic sense, proposes an even more precise definition of free zones, mostly focused on the issue of customs advantages:

*“Free zones are special areas within the customs territory of the Community. Goods placed within these areas are free of import duties, VAT and other import charges. Free zone treatment applies to both. Non-Community goods stored in the zone are considered as not yet imported to the Customs territory of the Community whereas certain Community goods stored in free zones can be considered as already exported. On importation, free zones are mainly for storage of non-Community goods until they are released for free circulation. No import declaration has to be lodged as long as the goods are stored in the free zone. Import and export declarations have only to be lodged when the goods leave the free zone. In addition, there may be special reliefs available in free zones from other taxes, excises or local duties. These will differ from one zone to another. The free zones are mainly a service for traders to facilitate trading procedures by allowing fewer customs formalities.”<sup>4</sup>*

The size of free zones vary considerably: from a few hectares for the smallest of them, to several hundred or even thousands of km<sup>2</sup>. Their primary purpose is to export most of their production (manufactured products or services), which justifies the absence of customs duties on imports for raw materials, but also for all imported inputs. Their export focus is therefore one of the main characteristics of free zones.

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<sup>3</sup> The case of cross-border free zones whose objective is to facilitate trade between two countries, such as the Kaesong free zone between South Korea and North Korea.

<sup>4</sup> [http://ec.europa.eu/taxation\\_customs/business/customs-procedures/what-is-importation/free-zones\\_en](http://ec.europa.eu/taxation_customs/business/customs-procedures/what-is-importation/free-zones_en)

Other SEZs do not always have this purpose because they are largely intended to welcome national and foreign investors interested in producing for the domestic market (this is particularly the case in China).

With these generalities in mind, it is possible to identify two main types of free zones according to their focus (Bost, 2010):

1. Free trade zones (FTZs) were the first type of free zones to have been developed. The World Bank uses the following definition: “*FTZs are fenced-in, duty-free areas, offering warehousing, storage, and distribution facilities for trade, transshipment, and re-export operations.*”<sup>5</sup> FTZs are hubs of international trade by the very nature of their activities: transshipment, re-export, international trade, etc. They play a very important role as trade facilitators in globalization. These areas are generally located in or in the immediate vicinity of seaports (known as “free ports”<sup>6</sup>) and major airports. They are also present along the main transportation axes (maritime, rail and road), along the development corridors, or in border regions.

2. Export Processing Zones (EPZs) are the second kind of free zone. EPZs specialize in manufacturing (textiles and clothing, footwear, sports goods, consumer electronics, industrial components, etc.) and, increasingly, in the provision of services that can be supplied at a distance through digital networks (digital data processing, call centres, financial services, etc.). Their particularity is to export all or part of their production abroad, according to very precise rules set by the investment code of the country of origin (usually varying between 80% and 100% of their production). If manufactured products from the EPZs are transferred to the domestic market, companies must pay customs duties equivalent to those they would have had to pay if they had imported these products, in order to avoid a distortion of competition. Some of the best known examples of EPZs include Shannon<sup>7</sup> (Ireland, since 1959); Kaohsiung (Taiwan, since 1966); Manaus (Brazil, since 1967); La Romana (Dominican Republic, since 1968); Masan (South Korea, since 1970); Bayan Lepas (Malaysia, since 1972); Batam (Indonesia, since 1978). These EPZs have been very successful and have attracted a great many foreign and domestic investors. They have served as models for the dissemination of the concept of industrial free zones and services throughout the world.

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<sup>5</sup> <http://documents.worldbank.org/curated/en/343901468330977533/pdf/458690WP0Box331s0April200801PUBLIC1.pdf>

<sup>6</sup> The World Bank has proposed the following definition: “*Free ports typically encompass much larger areas. They accommodate all types of activities, including tourism and retail sales, permit on-site residence, and provide a broader set of incentives and benefits.*” <http://documents.worldbank.org/curated/en/343901468330977533/pdf/458690WP0Box331s0April200801PUBLIC1.pdf>

<sup>7</sup> In 2017, Shannon lost its official free zone status under new rules in force in the European Union. But it is now a special economic zone according to UNCTAD criteria. [https://ec.europa.eu/taxation\\_customs/sites/taxation/files/resources/documents/customs/procedural\\_aspects/imports/free\\_zones/list\\_freezones.pdf](https://ec.europa.eu/taxation_customs/sites/taxation/files/resources/documents/customs/procedural_aspects/imports/free_zones/list_freezones.pdf)

### 2.3. The particular case of ‘single company free zones’ and ‘free points’

The inventory of free zones is made even more complicated by the existence of specific procedures that are not well known and specific to certain States. This is particularly the case for “single company free zones” (or “single factory free zones”), which are characterized by the presence of a single company within them<sup>8</sup>. Often private and small in size, single company free zones employ relatively few workers and contribute little (with a few exceptions) to the exports of the countries concerned compared with multi-enterprise free zones. However, it is difficult to compare them to other free zones in a country, which may host dozens, even hundreds of different single company zones.

This results in an anomaly in the counting of free zones, which is basically explained by the fact that the laws of the countries concerned do not provide for the possibility for single factory zones to establish themselves in the form of “free points”. By definition, free points do not refer to a specific area. They correspond to a legal status granted to companies that are free to set up where they wish on the national territory: in the immediate vicinity of a border (eg. Mexico), on raw material deposits (wood, agricultural products, mining products, etc.), near ports (eg. seafood), or in less attractive cities located in the interior of a country. Companies that choose this option follow exactly the same selection criteria from the authorities and benefit from the same advantages and constraints as companies that opt to set up in free zones (Bost, 2010). For example, free points must also export their industrial production abroad in proportions prescribed by law (generally between 80% and 100%). Few countries offer only free points to investors (Madagascar, which does not have a free zone, for example, does). Some countries offer both options in order to optimize their attractiveness (India, United States).

Free points are therefore not strictly speaking free zones, even if the advantages they confer are identical in every respect. It is therefore understandable that, if free points were counted as single company free zones, the world count of free zones would be deeply distorted and would no longer have much meaning. In this respect, it is interesting to recall that Mexico alone had 6,181 free points in 2018, well known as “maquiladoras”, and India had about 2,000 (called export-oriented units, or EOUs) at that date. As for the United States, in addition to its 191 free zones (called general purpose zones), it had about 400 free points (“subzones”), that are often very active (National Association of Foreign-Trade Zones, 2019).

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<sup>8</sup> This particular type of free zone is well known to the World Bank, which has proposed a precise definition: “Single factory EPZ schemes provide incentives to individual enterprises regardless of location; factories do not have to locate within a designated zone to receive incentives and privileges.” <http://documents.worldbank.org/curated/en/343901468330977533/pdf/458690WPOBox331s0Apr1200801PUBLIC1.pdf>

Free points are ignored by international institutions, even though their export activities can be important. This is partly because free points are much less visible in the landscape than free zones, especially since the countries concerned have given them very different names (eg. enclave companies, export-oriented units, free trade zone points, free zone enterprises, maquiladoras, pioneer industries) and do not use the generic term “free points”. In future, free points should be more widely recognized by institutions and included in their own right in the accounts, but in a dedicated section.

Finally, simple warehouses of goods (through which many sensitive goods such as cigarettes and alcohol pass) not integrated into free zones do not fall into the category of free zones, and are also not SEZs, even if they benefit from temporary tax exemptions for goods in transit (figure 1). Warehouses are present in large numbers in almost all countries (in Switzerland, for example, there are 240) and are also not included in SEZ classification.

Figure 1 summarizes the distribution of the different zones according to the new UNCTAD classification. The SEZ group includes all the zones that meet the definition given in the introduction to this paper. Among them is the large subgroup of free zones (export processing zones, free trade zones, single factory free zones) whose main characteristic is to benefit from customs import advantages. The other SEZs, which benefit from other incentives, are mainly specialized in advanced technologies

### Figure 1. Differentiating SEZs from free zones



and services. Free points are not strictly speaking “zones” (which explains why they cannot be classified as SEZs), but they are quite comparable to single factory free zones, with the difference that the latter are officially declared as free zones. However, because of the customs advantages they offer, free points belong to the same category as SEZs (Bost 2010, 2016). For the sake of clarification, single factory free zones ought to be officially reclassified as free points, but this is a matter that must be decided by the States concerned. Finally, Figure 1 shows that simple warehouses, industrial zones and industrial estates do not belong to this group of SEZs.

### 3. Counting SEZs is not self-evident

Counting the number of SEZs by country and major region is a preliminary and essential step in gaining a clear picture of their place and role in the global economy. In the absence of a rigorous and detailed account, international institutions have long used approximate estimates. One of the most frequently cited figures during the 1990s and 2000s, estimated the number of free zones in the world at around 3,000. This overestimated figure continues to be included in many documents without any verification<sup>9</sup>. This is due to the difficulty of collecting and comparing statistics on the different types of zones.

The first rigorous and detailed inventory (but only concerning free zones) was published in 2010 as part of the *Atlas mondial des zones franches* (Bost, 2010). At that time, the number of free zones was 1,735 in 133 countries. This work was completely updated in 2017–2018, in close partnership with the World Free Zones Organization<sup>10</sup>. This institution brings together the main countries with free zones. At that time, the number of free zones stood at 2,198 in 160 countries. Between 2010 and 2017–2018 another 463 free zones were developed. Using this data, UNCTAD carried out a new survey in 2019 (see table 1).

#### 3.1. Where are SEZs located in 2019?

According to UNCTAD, the number of active SEZs worldwide was 5,383 in 2019 (Table 1) present in about 150 countries (out of 193). The analysis of their distribution by country type, but also by major sub-region, is very instructive, as it reveals strong geographical contrasts.

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<sup>9</sup> For example: World Bank: ([http://siteresources.worldbank.org/TRADE/Resources/TradeIssueBrief\\_SpecialEconomicZones.pdf](http://siteresources.worldbank.org/TRADE/Resources/TradeIssueBrief_SpecialEconomicZones.pdf)) and the International Chamber of Commerce: <https://cdn.iccwbo.org/content/uploads/sites/3/2016/11/Combating-illicit-trade-in-FTZs-1.pdf>

<sup>10</sup> <https://www.worldfzo.org/>

SEZs are overwhelmingly present in developing economies (4,772, or 88.6%). The same is true for free zones (1,869, or 81.4%). It is largely thanks to free zones and more recently to other types of SEZs that developing economies have been able to attract investors and foreign capital, but also to initiate industrialization strategies allowing them to gradually participate in international trade.

Free zones have emerged in successive waves in these countries. First in South America before and just after the Second World War; then, more gradually, elsewhere in the 1960s and 1970s, in particular to take advantage of the first industrial relocations from Japan, the United States and Western Europe to low-wage Asian countries in sectors such as textiles and clothing and consumer electronics.

The development of free zones and, more generally SEZs, however, culminated with the globalization bout of the world economy from the mid-1980s onwards. All emerging countries, without exception, have legislated for the development of free zones and SEZs. Moreover, it is the free zones that have played an important, even decisive role in the economic emergence of these countries, especially in East Asia, with the notable exception of Brazil, which is clearly lagging behind (apart from the success of the Manaus Free Economic Zone). Unlike poorer countries, emerging countries offer increasingly sophisticated sweeteners (better training of the workforce, better supervision, efficient infrastructure, diversified and quality services). These benefits offset higher local labour costs.

Middle-income countries have also developed SEZ-friendly programmes that have met with some success. In particular, Kenya (71 free zones that vary greatly in size, both public and private), Ghana, Guatemala, Jordan, Nicaragua, Nigeria, Panama, and Tunisia. The other countries in this group of middle-income countries often have disappointing or modest results, with few ripple effects to local and national economies.

Given the growing interest they have generated in recent decades, several multilateral and bilateral organizations have encouraged SEZ-friendly policies in developing economies. The WTO has also taken them into account, because they represent one of the few means available to many poor countries to industrialize and participate in international trade.

In terms of geographical distribution, Asia (understood in the broadest sense: West Asia, East Asia and the Middle East) has the highest number of SEZs (75%) and free zones (52%) of the global total. However, SEZs are mainly located in East Asia (49%), and to a lesser extent in West Asia and the Middle East. All Asian countries have legislated for SEZs. This Asian supremacy reflects the massive shift to this region of manufacturing activities, previously carried out in developed countries. It also reflects the growing importance of these countries' international production and subcontracting capacities under the influence of local manufacturers and

foreign investors. Some 60% of global manufacturing production is now generated in Asia, and a large part of it is in free zones and other special economic zones.

China accounts for 47.2% of the world's SEZs. The vast majority of Chinese SEZs are intended to produce goods for the Chinese domestic market. Given their size and the number of local and foreign companies they host, the special customs zones make a very large contribution to Chinese exports. The country has undoubtedly made the proliferation of SEZs a major focus of its development strategy since 1978 (Chen, 2019; Meng and Zeng, 2019). The number of free zones in China (called "special customs zones") stood at only 135 in 2019, 5.9% of the world total of free zones (table 1). They are divided into six different subtypes: bonded zones (11); export processing zones (27), bonded logistics parks (4), cross-border industrial zones (2), bonded ports (13), comprehensive bonded zones (78).

Considerably lagging Asia is the Latin America-Caribbean region with 486 SEZs, 9% of the world total (Table 1). Africa has 237 SEZs (4.4%), many of which were developed from 1990 onwards. The transition economies are on par with Africa in terms of the number of SEZs, driven in particular by Russia, with its 130 SEZs.

Developed economies account for only 7% of global SEZs. However, the US is characterized by the existence of an effective free zone system created in 1934. This distinguishes between general purpose zones (which, in fact, correspond to free zones), numbering 191, and subzones (free points), numbering 400. 2,700 firms were installed within the general purpose zones in 2015 (420,000 jobs). Elsewhere in North America, Canada only has free points, as does Mexico (maquiladoras), although the latter has a small free zone. Japan has two small free zones on the island of Okinawa. Western and Eastern Europe have 85 free zones, 32 of which are in Western Europe. The European Union is in principle not very favourable to free zones, which it perceives as distorting competition. This is the reason why in recent years (from 1995 onwards) the number of free zones has decreases in the West, while their number has risen rapidly in the East. Poland (14), Serbia (14), Croatia (13) and Czech Republic (11) are the countries that have the most.

### **3.2. ... and where are they not yet located?**

Despite the impressive increase in the number of SEZs worldwide, some countries have given up on implementing such projects. Among the countries currently without SEZs, several have passed laws to enable their development. This is the case, for example, in Albania (where the text of the law on free zones dates from 2007).

Some countries, after several years of testing, end up abandoning their free zones strategy because the zones were dysfunctional. This is the case, in particular, in

Slovakia and Algeria (whose laws on free zones were repealed in 2006), and in Ukraine that abandoned its zones in 2005 (the law on free zones were introduced in 1996). All 21 Ukrainian free zones have been closed or converted. The reason for the change was serious tax evasion and smuggling problems that the Ukrainian authorities were unable to address.

#### **4. Conclusion**

By elevating special economic zones to the rank of a generic term, the fuzziness that had surrounded free zones for many years has largely disappeared. The change in terminology might also cast the image of these zones in a more positive light, after their generally being associated with lax regulation, questionable standards and grey areas that enabled trafficking. However, countries should at least agree on the use of common terms to improve the identification of different types of zones.

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