A COMPARATIVE ANALYSIS ON THE DESIGN OF THE LEGAL FRAMEWORK OF SPECIAL ECONOMIC ZONES OF BRICS

Nom de l'estudiant: Guillem Tur Garriga

Nom del tutor/a: José Miguel Aliaga Hernández

14/06/2020

MEMÒRIA DEL TREBALL FINAL DE GRAU

Curs: 4rt

Estudis: Logística i Negocis Marítims

Preface and Acknowledgement

I want to take this chapter as an opportunity to express my solemn gratitude to my tutor and professor, José Miguel Aliaga, for introducing me to the magnificent world of Special Economic Zones and for sharing his knowledge with me. It has been a complete adventure through hours of reading endless literature about this worldwide topic.

I would also like to thank my family members to be the central pillars of my thesis emotional slumps and principal motivation, but also my friends who have given extreme help, support and full confidence to me while writing this thesis.

To be honest, after a year of ups and downs: motivation, lack of motivation, inspiration, lack of inspiration and fair emotions; it is such a huge honour to finish and deliver this thesis. The first paper of my life and written in English. I am glad I have gathered some strength together and write all this in English, which has been a complete challenge for me. I am proud of achieving the great results that will contribute to the literature of Special Economic Zones. I hope scholars can enjoy reading this as much as I do.

Finally, I am grateful that this thesis I end up with this 4-year degree in Tecnocampus, where not only I met these incredible classmates and teachers but also was I given the opportunity to go to Norway as an exchange student where I learnt to follow what makes you feel happy.

Abstract

English

This thesis argues that prevailing theoretical approaches to SEZs have been unable to fully describe the rationale and policy outcomes due to heterogeneity. Our contribution to this literature is the first attempt at building a completely new theoretical approach by developing a dataset on the legal aspects of SEZ policy. We formulate MVACs that allow explaining further theoretical concepts. By undertaking an MVRA, we identify three ambitious findings that can be generalizable beyond the study sample: (1) enclave-based models do not contribute to the increase of employment; (2) institutional quality elements can help to promote the number of exports and FDI inflows; (3) flexible rules in investment facilitation help increase the employment rates.

Keywords: Special Economic Zones, Theoretical Approach, Legal Design, Dataset, BRICS.

Español

Esta tesis afirma que los enfoques teóricos predominantes sobre las ZEEs no han podido describir completamente los fundamentos y los resultados de las políticas debido a la heterogeneidad. La contribución de este estudio es el primer intento de construir un enfoque teórico completamente nuevo mediante el desarrollo de una base de datos sobre los aspectos legales de la política de las ZEEs. Formulamos 3 indicadores compuestos que permiten explicar más conceptos teóricos. Al llevar a cabo un MRLM, identificamos tres hallazgos ambiciosos que pueden generalizarse más allá de la muestra del estudio: (1) los modelos basados en enclaves no contribuyen al aumento del empleo; (2) los elementos de calidad institucional pueden ayudar a promover el número de exportaciones y entradas de inversión extranjera directa; (3) las reglas flexibles en la facilitación de la inversión ayudan a aumentar las tasas de empleo.

Català

Aquesta tesi afirma que els enfocaments teòrics predominants sobre les ZEEs no han pogut descriure completament els fonaments i els resultats de les polítiques causa de l'heterogeneïtat. La contribució d'aquest estudi és el primer intent de construir un enfocament teòric completament nou mitjançant el desenvolupament d'una base de dades sobre els aspectes legals de la política de les ZEEs. Formulem 3 indicadors compostos que permeten explicar més conceptes teòrics. Al dur a terme un MRLM, identifiquem 3 resultats ambiciosos que es poden generalitzar més enllà de la mostra de l'estudi: (1) els models basats en enclavaments no contribueixen a l'augment de l'ocupació; (2) els elements de qualitat institucional poden ajudar a promoure el nombre d'exportacions i entrades d'inversió estrangera directa; (3) les regles flexibles en la facilitació de la inversió ajuden a augmentar les taxes d'ocupació.

3

Table of Content

Chapter 1. Introduction

The notion of Special Economic Zones (hereafter SEZ) as a commercial tool for boosting macroeconomic outcomes emerged in ancient times as a result of trade facilitation between nations. From the second half of the 20th century, SEZs were set up for multinational corporations to establish and run their operations with flexible trade and customs rules. The last decades have seen an increased interest in the formulation of SEZ policies by governments. Currently, more than 5,400 zones have been set across 147 economies.

In recent years, researchers have become increasingly interested in exploring the aim of such a policy and why countries have tended to implement it. Considerable research attention has been paid to multiple case-based assessments, qualitative and quantitative studies. The role of theoretical approaches has been also predominant to figure out an academic way to explain the rationale, the policy outcomes and the evolutionary dynamics of zones. However, there is not a general agreement on a theory that fully explains the SEZ policy.

Although there is a large body of literature dealing with SEZs, there is little rigorous evidence on the legal design of SEZs. This paper fills the gap by building a complete brand new theoretical approach from the zone designation criteria taking as the 5 members of BRICS as the sample. We build a dataset composed by key variables detected in the SEZ enactments of such countries, plus we set multi-variable additive constructs (hereafter MVAC) as composite indicators to explain further theoretical concepts as a result of mixing variables concerning legal SEZ design aspects.

By undertaking a multi-variable regression analysis, we identify three ambitious results that are indicated at an aggregate- and country-level. First, enclave-based zones do not boost the number of workplaces. Governments who ought to increase the employment rate, policy-makers must design a more comprehensive model fully integrated into the domestic economy. Second, institutional quality elements can promote the number of exports and FDI inflows. This means that by encouraging both private and public-private partnerships (hereafter PPP) to take part in the governing bodies, it might help to implement a full-effective policy. Finally, flexible rules in investment facilitation help increase the employment rate at both aggregate and country-level.

Nevertheless, there are some other country-level results which have kept our attention and are not in line with the previous scholars. There might be some controversy on the effect of enclave models on exports. For some countries such as the Russian Federation, enclave-based models are not encouraging a raise on exports. For contrast, South Africa and Brazil do have a great effect on exports when employing enclave models.

The next sections in this thesis are organized as follows. Chapter 2 provides a systematic literature review on SEZs and legal design of the policy. Chapter 3 includes the research questions and objectives about the present thesis. Chapter 4 describes the methodology of the

empirical approach. Chapter 5 and 6 deal with the empirical strategy and results of the model, respectively. Finally, Chapter 7 concludes the study and makes further recommendations and presents future research.

Personal motivations

Back to the reasons for conducting this research, this topic came to my mind when I was selected in a temporary project for carrying out an empirical survey on Special Economic Zones. At the first stage, I had a lack of knowledge on this topic. Nevertheless, it was a matter of time until I realized that SEZs was a trending topic in the majority of economies and multiple types of research have paid certain attention to those effects created by this policy. At the end of the research, it was expected to find out stylized facts, which are meant to be empirical regularities that solve the issue of inaccuracy or uncertainty of economic statements (Hirschman, 2016).

At that point, no conclusions were drawn in terms of the legal framework of the policy, except for that any legal framework is meant to be copied: the government must plan strategically the most accurate definition of SEZ for its country according to their comparative advantage, workers' skill category and national infrastructure. This suggests that a major concern on a policy success relies on the institutional factors, meaning that policy-makers determine the key to SEZ's relative success. Such findings have never been a scope of any study. Therefore, this thesis is addressed to study the regulatory factors of the policy design, so that an assessment of SEZ Act elements can be fully undertaken.

Furthermore, as a group, BRICS have been precisely selected due to their rapid economic recovery from the 2008 financial crisis. Jim O'Neill, a British economist, identified these countries as symbols of the shift in global economic away from G7[1] economies (O'Neill, 2002). The economic weight of BRICS has grown considerably as the aggregate GDP of all five countries reached 18% of the world economy in 2010 (IPEA, 2014). However, analysts speculated that, in 2050, these economies would become the most dominant in the world. These are more than reasons to report which are the main attributes in foreign investments attraction and the political interest of SEZ development of selected countries.

Finally, this study is potentially competent for future collaboration in this area of research. Although some investigations have previously detected the elements of which the SEZ Act is composed, none of them has created a new dataset. Therefore, sometimes these studies focus on issues that are not relevant in a particular country because they are not covered by the SEZ laws. This study will help those researchers to properly address their analysis.

---

[1] G7 economies consist of the seven largest IMF – advanced economies in the world: Canada, France, Germany, Italy, Japan and the United States (IMF, 2017).

Chapter 2. Theoretical Framework and Literature Review

SEZs have been a widely common trade policy where the rise of exports, trade liberalization and achieving far-reaching macroeconomic outcomes have been in the spotlight for decades. Developed as well as emerging countries have progressively increased the interest in establishing free zones.

The extensive popularity of such a policy has created great influenced within the scholarly literature. Recent studies (e.g. Farole & Akinci, 2011; Gibbon, Jones, & Thomsen, 2008) have widely emphasized the extent to which importance is given to this policy by researching theoretical approaches, qualitative case studies, comparative analyses or quantitative modelling. While an endless number of authors has wondered whether SEZs were bringing successful policy outcomes by analysing a small set of countries or case-based countries, a reduced number of authors has proposed theories to explain the rationale success factors and outstanding results of SEZ policies.

An important feature of the literature is that none of the proposed theories has made any claim to the actual design of the SEZ policy. This means that no analytic research of the legal framework of SEZs has ever been performed before. The gap in the literature is identified by suggesting a complete brand new approach from the viewpoint of the design of the legal framework of SEZs.

The assessment on the technical procedures for formulating the legal framework of such a policy has allowed to identify the main components, which must be taken into account by policy-makers.

What's so Special about Special Economic Zones

The aim of this subchapter is to outline the evolution of SEZ concept that has led to the current modern comprehensive zones. It highlights that SEZs are dynamic trade tools that are constantly evolving due to new economic structures and needs. Not only are SEZs a special-incentive-package container, but also a commercial-related policy which encourage countries to implement trade liberalization.

Evolutionary stages of SEZs

Free Zones have existed for a long time. The first time that SEZs were conceived was on 300 BC in the Ancient Greek island of Delos as it provided free-traded conditions. Throughout the past centuries, they mostly took the form of enclave zones located on international trade routes in places such as Gibraltar, Singapore, Hong Kong, Hamburg or Copenhagen (The World Bank Group, 2008). SEZs were originally established to encourage *entrepôt* (transhipment) trade. These parts within the national boundaries became free when commodities circulated free of local taxation, prohibitions or duties (Farole, 2011). At the contemporary era, most of the countries developed protectionist economic strategies focused on import-substitution, which means oriented towards domestic production. However, few Asian countries, such as China or India, adopted export-led growth strategies which generated rapid and sustained national growth (Farole, 2011; Gibbon et al., 2008).

The most well-known one was Shannon Free Zone which was set up in 1959 in Ireland. It offered preferential taxes to foreign investors as well as a liberal regulatory for multinational corporations (MNC) (Gibbon et al., 2008). Since then, a great amount of SEZs was set up around the world, underlining Shenzhen in China, Maquiladoras in Mexico, Colon Free Zone in Panama Canal or EPZs in Mauritius. To provide a particular case, in the early 1920s, SEZs in Spain were the very first ones to allow companies to establish their manufacturing operations. Ford Motors accommodated its first plant at the Spanish Port of Cadiz when industrial productions were prohibited to accommodate in SEZs of the United States (Farole, 2011).

Many authors and organizations (e.g. International Labour Organization, The Economist, Asian Development Bank) support the idea of such Golden Age period being between 1990 and 2012, even though SEZs keep growing up to these days. **Figure 1** reflects an exponential rise in the number of SEZs and the number of economies which have considered implementing SEZs. From the critical years of 1997 and 2014, the increase is much greater than others in the graph.

Figure 1: Evolution of SEZs and number of economies (1975-2018)
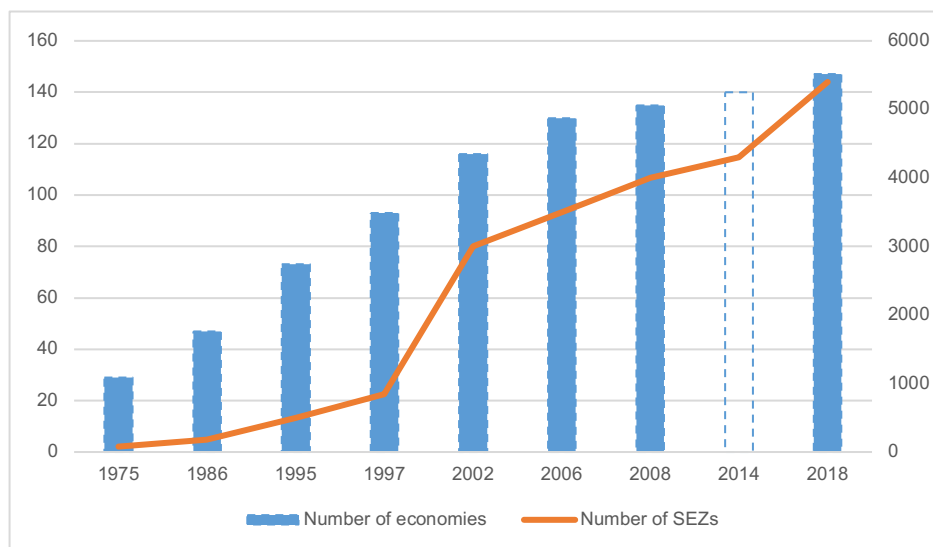
Source: UNCTAD

From the mid-1980s onwards, the World Bank loaned money for the construction of industrial estates and factories for SEZs in Sri Lanka, Thailand, Malaysia, Philippines, Dominican Republic, Colombia and Kenya. In the 1990s, the World Bank was still giving continuous support, but only in the context of wider strategies export development and facilitation including port facilities, transport linkages and reform customs departments. Around the 2000s, both the World Bank and the International Monetary Fund (IMF) seemed to be first critical towards SEZs and were not stimulants anymore (Gibbon et al., 2008). The reason these organizations stopped funding the SEZ development was that the governments could be avoiding internal macroeconomic reforms.

Several scholars have examined the role of SEZs as second-best policies from the institutional point of view. The lesson here is that a specific economic objective, such as export promotion or trade liberalization, can be achieved through different institutional designs (Rodrik, 2008). Some economies have decided to focus on implementing SEZs as a comforting policy instead of paying attention to overall economic liberalization. The most illustrative examples might be India and China since their trade liberalization process has been linked to the creation of zones for opening up towards international markets.

For instance, on the one hand, the Chinese government opted for using SEZ as experimental laboratories in order to test new economic policies that eventually are going to be introduced in the whole territory (Farole & Akinci, 2011; Gibbon et al., 2008; The World Bank Group, 2008). On the other hand, India first choose to follow EPZ scheme as a basis to provide incentives to increase exports. Due to the lack of success, the Government of India announced a SEZ policy with the aim of overcoming the shortcomings of the EPZ scheme (Rahoof Tk & Arul, 2016).

11

In **Table 1** below, the distribution of SEZs by region is shown. It is confirmed that SEZs in developing countries account for almost 90% of the total number globally. This reflects how emerging economies are using this kind of policy lately to achieve national goals. The remaining 10% is divided into developed (6,9%) and transitional countries (4,4%).

Table 1: Distribution of Worldwide SEZs

2019	Number of SEZs	% Total
World	**5.383**	**100%**
Developed economies	**374**	**6,9%**
Europe	105	2,0%
North America	262	4,9%
Developing economies	**4.772**	**88,6%**
Asia	4.046	75,2%
China	2.543	47,2%
India	373	6,9%
Africa	237	4,4%
South Africa	3	0,1%
Latin America and the Caribbean	486	9,0%
Brazil	18	0,3%
Transitional economies	**237**	**4,4%**
Russian Federation	130	2,4%
Others	137	2,0%

Source: self-created from UNCTAD data (2019)

According to all the information above about the evolution of SEZs, the wide concept of SEZ has evolved in great importance as a policy for countries' economic development, resulting in a variety of zones with different objectives, activities and management. Therefore, although it is not a standardized policy applicable to all countries, SEZ is a comprehensive term which many authors have attempted to define it. The most common definition of it would be mentioned in Farole & Akinci' work (2011):

> *"An area contained within a country's national borders where rules*
> *of business are different from the rest of the country"*

The differential rules basically deal with investment conditions, international trade and customs, taxation and the regulatory environment (Aggarwal et al., 2015; Farole & Akinci, 2011; Gibbon et al., 2008). The zone is given a business environment that is intended to be more liberal from a policy perspective and more effective from an administrative perspective than that of the national territory (Farole, 2011a).

Typology of SEZs

The evolution of SEZs is also led by the new economic structures or functionality changes of the zones. Throughout the history, numerous terminologies for designating SEZs, exactly 66 different names, have been originated. The most common names are: Export Processing Zones; Free Trade Zones; Special Economic Zones; or Industrial Zones. Guangwen (2003) attempted to identify a possible classification composed by 6 generations[2], which are differentiated by their rationale and is shown in **Table 2**.

Table 2: Generations of SEZs

Generation	Rationale	Terminology
Trade-based	To facilitate transiting trade as well as complementary logistic services	Free Trade Zones
Manufacture-based	To promote export-oriented manufacturing and processing industries	Export Processing Zones
Service-based	To foster services with administrative privileges	Free Banking Zone, Free Medical Zone
Science-based	To promote high-tech industrialization and commercialization	Industrial Parks, Technology Parks, Innovation Districts
Comprehensive-based	To accommodate all types of activities	Special Economic Zones
Cross-border	To cooperate with two or more countries in economic development of an specific area	Economic Corridors

Source: self-created using data from Guangwen (2003)

---

[2] A complete classification of SEZs based on Industrial Structure and Evolutionary Stages can be found at Guangwen (2003), p.23.

Theoretical Approaches

Throughout the history, there have been three prevailing approaches to explain the rationale, the success factors and the development outcomes of SEZs: the Marxist , the Orthodox or *Neoclassic* and the Heterodox. However, recent literature has developed specific theoretical approaches which explain the rationale of SEZs from different perspectives taking some specific characteristics into account. In all, these can be classified according to the standpoint of which SEZs are conceived, as shown in **Table 3** below.

Table 3: SEZs Theoretical Approaches

Marxist	Orthodox or neoclassic	Heterodox
Marxist dependency theory	Cost-benefit	Investment-centred approach
		Agglomeration of industries (NEG)
		Heterogeneity of firms
		Global Value Chains
		Political Economy
		Institutional approach

Source: self-created

The Neo-Marxist Dependency Theory

There is a school of thought that proposed a theory to explain the primary rationale of setting up SEZs from the "*New International Division of Labour*". Fröbel et al. (1978) argued that SEZs are promoted to offer cheap labour to increase global value chains (GVC), rather than tax and tariff or any other fiscal privileges. According to this approach, SEZs are reported to be world factories with dramatically lower wages, performing assembly line work, which is the least sophisticated segment of the production process (Fröbel, Heinrichs, & Kreye, 1978).

Another reason sustained by this approach is that SEZs are a tool to facilitate the production systems largely driven by multinational corporations to exploit differences in location costs. The research and management are controlled by developed countries, while assembly line work is relegated to emerging countries. Trade liberalization and economic reforms have made production centres to relocate worldwide through offshoring and outsourcing (Aggarwal, 2011).

The Neo-Marxist Theory has been largely criticized on three main topics. First of all, MNCs may have more reasons than only cheap labour to relocate in developing countries (Jenkins, 1987). These can be an expansion of markets or marketing and logistics costs. The second reason deals with the evolution of SEZs (Haywood, 2004; Meng, 2005). More and more, comprehensive zones

are gaining importance due to the integration of services beyond manufacturing-based activities[3]. Third and last, strategic decisions such as offshoring and outsourcing open new opportunities for the local economy to participate in GVCs and expand their export capabilities (Moran, 2002).

Orthodox or neoclassical approach

There is a general agreement that indicates the first conception, concerning SEZs, is called the *orthodox* or *neoclassic* approach. The rationale of SEZs, according to this approach, is to promote trade-generating benefits for the local economy, measured by principle macroeconomic indicators. Aggarwal (2017) has concerned about employment and income effects, foreign exchange earnings, exports and GDP as main policy outcomes. This approach does not associate SEZs with either FDI-related benefits or spill-over effects.

Furthermore, SEZs are seen as transition vehicle for economic development in the shape of *enclaves* in order to promote trade-related activities (Aggarwal, 2010). For some specific cases, SEZs were (or still are) conceived to be experimental laboratories for the application of new policies and approaches in order to facilitate the process of economic transition and liberalization (Farole & Akinci, 2011; Madani, 1999; The World Bank Group, 2008).

In his 1983 study, Warr first proposed the cost-benefit approach as a way of explaining the rationale of SEZs. Following the lines of the neoclassical approach, SEZs take the form of enclaves within which manufacturing for exports occurs under free trade conditions while the rest of the country follows an import regime (Aggarwal, 2011). In this model, it is assumed that setting up a SEZ not only might have some costs[4], that either the government or a private entity must deal with, but also expected benefits. The conclusion postulated that the surplus generated will increase the investment inflows in the host economy.

The neoclassical approach suggests that SEZs are considered to have a negative welfare effect on the country, as the creation of zones will increase inefficiency by distorting production away from its comparative advantage (Hamada, 1974). Warr (1989) concluded that "*SEZs necessarily reduce the welfare of the countries – is thus largely irrelevant for EPZs as they actually operate*". Some authors (e.g. Rodrik, 2008) pointed out that if free trade is not politically viable, at a national-level, some welfare gains must be taken from the effects of SEZs. As a result, free zones are also seen as the second-best policy to get full trade liberalization.

There has been much criticism of this theory based on the irrelevance of external effects. For example, FDI inflows and technology transfers are supposed to be of minor importance to the impact of SEZs. Increasingly, FDI, in today's world, is a major force for countries' development.

---

[3] More details on evolution of SEZs are explained in the chapter "Evolutionary stages of SEZs" of the present study (page 10).
[4] (1) zone construction and development, (2) management and maintenance, (3) private sector capital investment, (4) the cost of environmental pollution.

Furthermore, these criticisms also mention the enclave model because the free trade model has changed from an isolated structure to a comprehensive format integrated into the host economy. Therefore, by using a static framework with the effects of employment and well-being as main concerns, the approach of trade theory does not adequately explain the rationale of SEZs since they are constantly changing and having a great impact in the host economy.

Heterodox or Investment-centred approach

A school of thoughts rejected the neoclassical approach by arguing that spill-overs through knowledge and technology transfers were not taken into account. Therefore, these heterodox economists emphasized that dynamic benefits such as promoting export growth and spill-overs effects can lead the country to the overall economic transformation (Milberg, 2007). This school explains the rationale of SEZs within the realm of endogenous growth models (first explained by Romer in 1986) and new institutional and development-state theories developed in the 1980s (Aggarwal, 2010). These models underline that the process of growth is entailed by technology, knowledge, skills and learning, and argue that FDI is the key source for developing countries.

As a result, much of the current debate over the heterodox approach suggests that SEZs are a strategic investment-centred tool to attract FDI to fill gaps in technical, marketing and managerial *know-how* that developing countries' firms are missing. According to Johansson and Nilsson (1997), the presence of foreign firms generates important spill-overs through demonstration effects, on-the-job training, learning by doing and copying, and contributes to the diffusion of technology and knowledge. Although there is limited research investigating technology transfers, few case-studies attempts (e.g. Abdulmoein, 2014; Farole & Akinci, 2017; Hyun & Ravi, 2018) have been made to investigate human capital development through very distinctive methodologies. Besides, Johansson (1994) argues that even though inter-industry spill-overs to the rest of the economy may be limited, intra-industry spill-overs can take place within the zone.

The role of the government is to provide notable attractive forms of investment incentives to encourage foreign entities to invest. There is clear constant policy competition between governments by changing key factors of their economic policies such as domestic labour market conditions, corporate taxes, tariff barriers, subsidies, privatization and regulatory regime policies (Blomström & Kokko, 2003; Demirhan & Masca, 2008). Blomström considers good governance when FDI policy takes part in the country's overall industrial policy and make any incentives available on equal terms to all investors (foreign and local).

Although FDI inflows contribute with positive externalities to local economies, it does not mean that host firms can absorb foreign technologies and skills at once (Farole & Akinci, 2017). Such contributions will only be possible when local firms have the absorptive capacity, in terms of knowledge basis. However, there is not much literature on the role of FDI technology transfers and diffusion in developing countries.

The heterodox approach was extended by including the provisions of more recent theories, such as (1) global value chains, (2) agglomeration of industries, (3) the political economy and (4) the institutional approach.

Global Value Chain Approach

The development of global value chains led to the integration of emerging countries into trade globalization based on their comparative advantage (Siroën, 2014). GVCs were born as a result of strategic decisions taken by MNCs to either outsource or offshore[5] as a way of operating in lower production costs. As a result of upgrading domestic firms, they have access to a global pool of new technologies, skills, capital and markets and target more sophisticated market segments such as design, marketing and branding (Aggarwal, 2010).

GVCs bring potential promotion to the new knowledge-intensive sectors in addition to the labour-intensive sectors (Aggarwal, 2011). SEZs encourage offshoring and outsourcing MNCs' management strategies as a way of operating in lower production costs. The GVC approach is based on the development of SEZs as tools for attracting offshore and outsource activities, and how firms (foreign and local) are willing to exploit the local comparative advantage (Siroën, 2014) by being offered plenty of financial incentives. Finally, Gereffi (1999) stated that firms moved from assembly of imported goods to increased local production, to design the products under the brands of other firms, and to sale their own branded merchandise in internal and external markets.

Although the Marxist theory argued against the promotion of GVCs to cost reduction and turning emerging countries into global factories, the heterodox scholars recognized the importance of them in skills and technology upgrades and global markets accessibility.

The New Economic Geography and Agglomeration Approach

On the other hand, a numerous group of scholars paid attention to this new trend of firms being agglomerated in a geographically concentrated area. The first author who attempted to provide a theory and a model explaining agglomeration was Marshall (1920). More recent research (e.g. Krugman, 1991) defined a powerful analytical framework called "*The New Economic Geography*" in which is demonstrated how industries tend to be highly geographically concentrated in cities or industrial zones. This approach is focused on the reallocation of resources to promote productivity and innovativeness (Aggarwal, 2010).

The economist Porter (1980) defined "*cluster*" as geographic concentration of similar of related firms that together create competitive advantages for member firms and regional economies. These clusters enhance productivity and spur innovation by inputs sharing, knowledge spill-overs and labour pooling, cost reduction, regional competitiveness, among others (Aggarwal, 2010;

---

[5] Aggarwal (2010) describes outsource as an activity associated with subcontracting parts or the whole production process to specialized firms abroad while off-shoring is the shift of production to a new location in another country through affiliates (FDI).

Krugman, 1991). The most important advantage is the spill-overs effects to the local economy: *'Local producers learn a great deal from global buyers about how to improve their production processes, attain consistent and high quality and increase the speed of response'* (Kim and Zhang, 2008).

Some authors supporting this approach consider that large comprehensive zones are based on the concept of industrial districts. They are seen as instruments to support both industrial competitiveness and industrial decentralization (Farole & Akinci, 2017) and have the potential to foster industrial clusters by exploiting agglomeration economies.

The Political Economy of SEZs

The first attempt on building an institutional framework applying the political economy was in the hands of Lotta Moberg. In her discussion of the political economy of SEZs, Moberg (2014) confirms that SEZs are an outcome of the politics of interest groups. The objective of SEZs, according to this approach, is to generate rents to a few capitalists by facilitating the land acquisition and offering tax incentives at the cost of the rest of the population, which in turn would reduce the overall welfare (Aggarwal, 2010).

The central government has both the power and the obligation to design the policies for the country's SEZs. Therefore, Her robust political economy deals with two problems in policy-making: (1) the problem of knowledge and (2) one of the incentives.

The first refers to policy-makers often lack the necessary knowledge and have a poor understanding of the market conditions to promote technological progress by planning SEZs. Therefore, the more politically centralized a system is, the more severe it is the knowledge problem. To solve this problem, government officials need to move the decision making about SEZs closer to the people with the right knowledge: (1) private investors can be allowed to decide which industries may be located in areas chosen by the Government; (2) local zone regulators can more easily see the opportunities of more entrepreneurial and radical policy changes when designing and implementing policies.

The latter problem deals with rent-seeking and the personal gains of officers derived from the incentives package. Historical economists (e.g. Tullock and Krueger) have detailly explained the characteristics of the rent-seeking society. They recognized that government agents provide numerous special market privileges. Due to self-interested decisions, market participants seek these privileges to get monopoly rent. Regulators may extract, then, bribes from the companies investing in the zone.

The solution, therefore, to this problem may be (1) the private zone developers and (2) the combination of democracy and decentralization. On the one hand, private zones are less likely to end up as vehicles for rent-seeking. Private SEZs seek for maximization of profits at the same

time the best business climate is provided at the lowest cost. On the other hand, the combination of democracy and decentralization does not only imply less high-level corruption but also local governments are better able to understand what incentive scheme can work for their agencies to create a clean bureaucracy.

Institutional approach

Aggarwal (2017), in her more recent attempt to build a conceptual institutional framework, introduces basic assumptions and propositions as the building block of the framework. She draws of the tenets of the dynamic of institutional changes to find answers to (1) the rationale of SEZs, (2) the critical success factors and development outcomes of SEZs, and (3) the evolutionary dynamics of SEZs.

The rationale for setting up SEZs is they are safety valves that can address inefficiencies within a given institutional context. She suggests that "*they release institutional pressures on growth without giving a shock to the lock-in institutional arrangement in the wider economy and foster the process of growth*". In order words, SEZs are enabled tools for the process of economic growth without causing a shock to the national economy, in an institutional point of view.

The success factors and economic outcomes of SEZs depend on the strategic approach adopted by policy-makers towards SEZs. As there is no single recipe for designating the legal framework, SEZ policies must be evaluated, not SEZs in general.

Finally, SEZs are continuously changing due to the shift in power, interests, perceptions, needs. The changing institutional dynamics pose new demands, new goals, and new institutional challenges. Therefore, policy-makers should assign new roles to SEZs and new designs, which in turn further affect their development results and success factors (Aggarwal, 2017).

The heterodox approach is an attempt to create a complete framework for understanding the rationale and success factors of SEZ policy. While it does include additional provisions, such as the explanation for the political economy behind the policy or the agglomeration effects of SEZ-based companies, it remains focused only on the catalytic role of FDI in the liberalizing the country or pushing the host economy to a higher growth position.

Conclusion

In regards to the SEZ policy, the literature provides several theoretical approaches which identify the mechanisms through which SEZs can lead to growth and economic development. First of all, the Marxist Dependency theory emphasizes labour exploitation and it defines SEZs as world factories in which cheap labour is offered. However, scholars argued against this theory by noting that SEZs are constantly changing and taking part in GVCs must be seen as trade opportunities for host economies. Secondly, the orthodox approach is concerned about SEZs giving trade-generated benefits to the local economy, in which an increase in employment, foreign exchange earnings and GDP are the most important features. Nonetheless, neither FDI or spill-overs are considered as relevant external factors for country development. Third and last, the heterodox has paid attention to the endogenous growth models which promote economic development through knowledge and technology spill-overs. Also, it explains how firms can foster their productivity and spur innovation through the agglomeration of industries in the shape of SEZs. Two new different approaches were added to literature and aimed to give a distinctive perspective from the old ones: the political economy criticized how public entities use SEZs as a policy for rent-seeking; institutional approach proposed that SEZ dynamics are continuously changing and policy-makers must assign new roles and designs to SEZs.

Numerous scholars have aimed to propose theoretical explanations to redirect the policy-making. As a matter of fact, the heterogeneity on zone designation and policy outcomes in worldwide SEZs have confirmed that there is not a single way to explain the rationale, the success factors and the evolutionary dynamics. However, the vast majority of the work in this area has primarily focused on applying the Economic Theory to SEZ development.

The present study identifies the gap in the literature where no previous studies in the field of theoretical approaches of SEZs have sought to examine the SEZ policy from the viewpoint of the design of the legal framework. The design of SEZ Acts is considered to be one of the main drivers for economic policy outcomes by experts. Most of the studies have paid attention to the conception of SEZs in general. Therefore, it is not possible to analyse the components of the SEZ Act and find the most relevant ones which have a better economic impact.

Towards the Design of a New Approach

Since SEZs have become an important policy-making tool for almost all governments now, it is of great interest to build the first attempt at a new approach from the SEZ program design' point of view. The objective of this subchapter is to describe the literature review or the indicators that offer empirical explanations to use this methodology in the present study.

As far as it is known, from the perspective of the methodology review, there is just one attempt to illustrate a complete analysis of the design of trade policies. Preferential Trade Agreements (PTA) have been rising for the last twenty years to reduce competition by joining interest groups within the same industry or market characteristics or using international trade institutions as instruments to commit to specific policies (Dür, Baccini, & Elsig, 2014). During recent years, many scholars in this field have started to pay attention to the scope and depth of these agreements, to a point that they seem pretty heterogenic.

In the description of the data of Dür et al. (2014), 733 PTAs were identified and signed between 1945 and 2009. This large number of trade agreements allowed to propose the most comprehensive dataset in terms of both items coded and the number of agreements included. This dataset has permitted other studies to analyse some measurements of the design of trade agreements (e.g. depth, flexibility or rigidity) by combining some variables. These combinations are called composite indicators or multi-variable additive constructs (MVAD) which have also been used in other fields of economic science. The aim of using constructs is to evaluate and measure related multidimensional concepts together with the outcomes obtained as the result of the development of the agreement.

Even though the evaluation of the design of trade agreements have been the first attempt at measuring a trade policy from the perspective of the components of the agreement, many economic indicators have been formulated by taking into consideration multi-variable additive constructs. For instance, Logistics Performance Index (LPI), Global Competitiveness or Economic Freedom are designated concepts which involve a group of variables to measure more complex conceptions.

The LPI provides a correspondent score which is composed by 6 core components: (1) customs procedures, (2) quality of infrastructure, (3) arranging of shipments, (4) quality of logistics services, (5) track and trace consignments and (6) timeliness. Previous components must be rated from 1 to 10, and then, are weighted by calculating standard statistical tests. Thanks to the construction of this composite indicator, there is the most comprehensive data source for country logistics and trade facilitation (The World Bank Group, n.d.).

Another example is Economic Freedom. It gives further information about key aspects of the economic and entrepreneurial environment over which governments typically exercise policy

control: (1) rule of law, (2) government size, (3) regulatory efficiency and (4) market openness. These four categories are based on 12 quantitative and qualitative pillars, in total, which are weighted from 0 to 100 (The Heritage Foundation, n.d.).

The present study takes these methodologies into account, as SEZs are complex trade policies to evaluate due to their global heterogeneity. Some similarities have been found with the situation of PTA, LPI and Economic Freedom since the concept of SEZ is much broader than what is explained in the theoretical approaches mentioned in the previous section. It is worthwhile to note that the literature has not attempted at any case to build a new dataset to build an approach from the viewpoint of the policy design.

Special Economic Zones: Vehicle for Economic Development

An evolution in the theoretical literature has greatly contributed to analytical and empirical literature on SEZs (Aggarwal, 2011). There is a wide-extended literature, both case-based and systematized reviews, that identify the most beneficial conditions when these zones are implemented. Looking at the experience of any zone, there are three points of crucial interest to policy-makers (Farole & Akinci, 2011): (1) to attract successfully foreign companies, and therefore, FDI to create jobs; (2) to make sure that zones are economically, socially and environmentally sustainable; and (3) to generate positive income acting as a "catalyst" for an overall economic reform. Therefore, there is a need to further investigate why these objectives are driving countries towards economic development through SEZs.

This subchapter introduces the contribution of SEZs to the economic development of any country and the components of which the legal framework shall be composed in order to seek the goals' achievement.

Static and Dynamic Effects

The most supported notions in the literature regarding the policy objectives deal with two kinds: (1) *static* and (2) *dynamic* economic benefits. Referring to static effects, these are direct or one-off gains associated with a single SEZ. However, scholars state dynamic benefits as the ones which contribute to the general transformation of the domestic economy especially, in the long run, including diversification, upgrades and increased openness. The third wheel objective would be social benefits even though they are scarcely cited on the literature (**Figure 2**).

Figure 2: SEZ Policy objectives
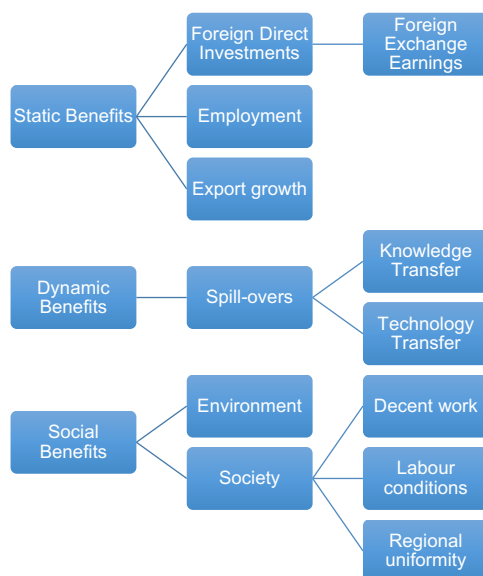
Source: self-created

Foreign Direct Investments

The Organization of Economic Co-operation and Development (2008) defined FDI as

"*a cross-border investment, which comes from another country and reflects the objective of establishing an interest by an enterprise that is resident in another country*"

FDI can be critical for most of the developing and emerging countries due to the lack of funding of their government. Therefore, experience tells us that these countries are in constant need of foreign capital to be able to cope with the economic development of the country (Demirhan & Masca, 2008). SEZs often want to capture FDI through multinational companies (MNCs), as there is a much better chance that physical infrastructure and business establishment can be properly implemented.

Widely accepted common reasons why FDI is a policy objective are hereby stated:

- FDI is a key source for **economic development** and global integration
- FDI can promote **financial stability** and the well-being of societies
- FDI is a major source of process **technology** and **learning-by-doing** opportunities
- FDI can help **support** to national investments

Numerous scholars (e.g. Chakraborty, Gundimeda, & Kathuria, 2017) have recognized the importance of FDI in SEZ development, as it is truly believed that investment policies are generally more liberal than those in the country. There is a preferred regime which is widely different from the rest of the country in terms of fiscal and non-tariff incentives. Therefore, there is a strong likelihood that foreign-owned companies can be established in those specific areas for financial benefits. Policy-makers need to consider the SEZ incentive framework in the strategic design of the SEZ policy framework and development program (UNCTAD, 2019).

Apart from the incentives framework, there has been a greater consensus in determining the four main macroeconomic factors that are influencing the business environment of SEZs in terms of attracting FDI inflows. Demirhan et al. (2008) estimated through a cross-sectional analysis[6] the determinants of FDI inflows in developing countries using GDP, inflation rate, labour costs or degree of openness as variables. The results of this study together with other authors' findings are listed in the **Table 4** below as they have been identified as more influencing factors for the investment climate. It is important that these factors must be taken into consideration by the time the national government is carrying out the strategic planning of any trade policy.

---

[6] The empirical study is based on a sample of cross-sectional data of 38 developing countries. The list of countries can be found in Appendix 1 of said study.

Table 4: Factors of great influence on FDI

Market factors	Labour factors	Infrastructure	Political factors
- Market size	- Availability and quality of workforce	- Transport network facilities	- Trade openness or liberalization
- Economic growth	- Flexible labour rules: wage rates	- Provision of land, power and water supplies	- Regional integration
- Agglomeration of industries			- Low political risk

Source: self-created from (Demirhan & Masca, 2008; Gibbon et al., 2008; Zhukovskaya et al., 2016)

A final set of studies suggested that the industrial sector is another key factor for FDI attraction. While first SEZs were set with the purpose of carrying out manufacturing activities, more and more, current SEZs are also dedicated on service and science industries. Most of the researchers working in this area (e.g. Davies, 2018; Cizkowicz, 2015) agreed that trade- and labour-intensive industries are more likely to attract quality FDI than capital-intensive activities due to their trade intensity. Hence, it is also worthwhile to mention in the legal policy framework whether there is a specific industrial sector to accomplish the economic opportunities of the country or just offering the broadest possible range of sectors.

Employment Effects

The generation of employment is considered, by many authors, as a primary goal and the most important contribution of any SEZ to the economy. It is also believed that the employment creation generates incomes and therefore, improves the quality of life and enhances their productivity (Aggarwal, 2007). The existing literature emphasizes that zones may act as "*pressure and safety valve*" which means that countries with growing unemployment rates are aimed to implement painful structural reforms in order to alleviate large-scale unemployment (The World Bank Group, 2008).

Establishing SEZs is usually seen as a politically effective way to create direct employment opportunities in emerging economies, and hence, to improve the overall welfare of the host economy. According to Boyenge (2007), employment increased from 22.5 million in 1997 to 66 million employment opportunities in 2006. In today's world, an estimated 90 to 100 million people are directly employed in SEZs and free trade programs (UNCTAD, 2019). The indirect employment impact of zones appears as a generation of a multiplier effect (the ratio will depend on the extent to which SEZs are linked to the domestic economy) on local employment because FDI is transformed into additional economic incomes.

Although employment generation may be seen as a great opportunity for welfare improvement, there is much debate over the labour conditions in SEZs. The International Labour Organization (ILO) is the main non-governmental organization that watches over labour rights and work

standards around the world. One of the most criticized topics is the SEZ model, suggesting that the violation of labour rights and poor labour conditions are strongly associated with SEZ policy formulation. As labour rights standards are not part of the national law but rather the incentive framework of SEZ policy, there is a strong likelihood that countries may opt for more attractive laws.

Cirera and Lakshman (2014) have carried out an extensive systematic review on employment and labour conditions in SEZs of emerging countries. This study finally concludes, as a result of synthesising 59 reports, that there is not enough evidence to attribute SEZ a poor labour law regime. An interesting conclusion is drawn from the fact that average wages are higher at SEZ-based enterprises than outside, but they depend on the size of firms, nationality, industry and labour market conditions. Regarding labour activists and health and safety conditions, there is a lack of information to conclude anything.

There is a large literature (e.g. Aggarwal, 2007; The World Bank Group, 2008) that suggest employment in SEZs is marked by gender labour discrimination. While men have been generally more likely to gain skilled jobs were wages are higher, women had to take more labour-intensive jobs. SEZs, with intensive jobs, are transferred to developing countries where the majority of workers are young, single, less-educated women between the age of 16-25 years. Although, there is heterogeneity regarding feminisation, Cirera and Lakshman (2014) confirmed the hypothesis stating that female dominate SEZ' job opportunities.

Export Growth

The literature describes the export growth as the last static benefit of SEZs. By definition, SEZs should increase the exports of the SEZ-based firm by imposing export targets (Gibbon et al., 2008). SEZs now are estimated to account for more than US$200 billion in global exports (The World Bank Group, 2008). However, there is heterogeneity regarding the share of exports that SEZs contribute. For instance, according to the last report of UNCTAD (2019) about SEZs, zones contribute more than 50% of total exports in Costa Rica, the Dominican Republic and Nicaragua. In Asia, SEZs are credited with more than 60% of the Philippines' exports and close to 10% of India's.

First of all, Davies (2016) and Nazarczuk (2018) exposed two key variables on export performance: (a) the decision to export or *extensive margin* and (b) export intensity or *intensive margin*. Besedes (2008) has given a wide description of both of them. The first is meant to be the number of country-product relationships an exporting country has. In other words, the number of economies a country has relationships to trade with. The latter focuses on the volume of trade, its price and quantity components.

According to Besedes (2008), "*the growth of trade is due to the intensive margin*". The analysis[7] of Davies (2016) went even further and claimed that SEZs increase the value of exports in countries with import barriers, meaning that SEZs may reduce the cost of intermediate inputs, encouraging both domestic and foreign sales.

Secondly, most researchers (Davies, 2015; Wang, 2010) working in the area of export performance agreed that foreign-owned entities are more productive, larger, have more investment capacity, have a higher probability of survival and are often strongly connected globally in terms of value chains and export demand. Therefore, firm ownership is a key element which affects the export intensity and worldwide connectivity and must be explicitly written in the legal framework the kind of entities that aimed to establish within the zone.

Another major, but less-noted static objective behind SEZs is Foreign Exchange Earnings (FEE). These can be defined as the monetary gain made by selling goods and services or by exchanging currencies in global markets. Particularly, profits from exports and FDI may help raise this indicator. According to Gibbon et al. (2008), "*FEEs are expected to boost the balance of payments, thereby relieving possible macroeconomic constraints*".

Spill-overs, human capital development and technology transfer

Dynamic economic benefits are achieved only when countries have been successful in establishing the conditions for a linkage between the domestic economy and SEZ-based companies. This includes investment by domestic firms into the zones, forward and backward linkages, business support, and the movement of skilled labour and entrepreneurs between the zones and the domestic economy (Farole & Akinci, 2011). Wang (2013) provided some evidence that using the policy initiative of SEZ, there will be an improvement on regional development. Hence, SEZs have a positive impact on the host country beyond the traditional "*enclave*" structure (Madani, 1999).

This last contribution suggests a shift from a traditional *fenced-in-enclave* type of zone to an SEZ model which accommodate all types of activities, such as tourism and retail sales, in much larger areas and eliminates legal restrictions on domestic participation (The World Bank Group, 2008).

Much of the debate has revolved around two mechanisms through spill-overs are expected to be achieved: backward and forward linkages (see **Figure 3**). Such linkages are included in the endogenous growth model[8] proposed firstly by Romer (1986) which internalises both knowledge

---

[7] Davies (2016) uses a panel data on 11,161 firms across 22 emerging countries stated on the Appendix.
[8] Paul Romer (1986) was one of the first economist who developed the endogenous growth theory, which emphasized that technological change is the result of efforts by researchers and entrepreneurs who respond to economic incentives.

and technology as important attributes to growth sustainability and economy drivers (Abdulmoein, 2014).

Figure 3: Mechanisms through spill-overs
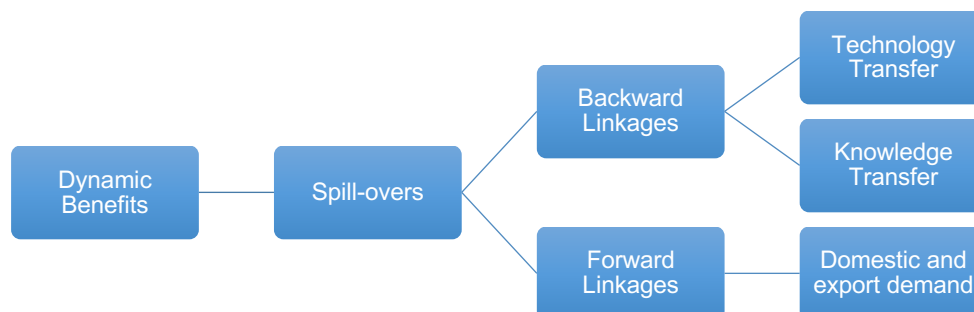
Source: self-created

Backward linkages are settled up with suppliers and companies located close to SEZs and it is basically about technology and knowledge transfers. While there is a wide literature (Abdulmoein, 2014; Aggarwal, 2007) on their transmission procedures, few attempts (Farole & Akinci, 2017; Frick, Rodríguez-Pose, & Wong, 2019) on empirical analysis have been made to investigate the effects of spill-overs on any country using night-time lights database.

To upgrade standards for technology and knowledge, there have been two conceptions so far. First, employees can be encouraged to be trained through imitation where foreign firms represent a showcase for domestic firms to learn and copy. Second, through employees' circulation as domestic firms may benefit from the training acquired by hired workers previously employed in SEZ-based firms (Abdulmoein, 2014). There is one last conception, provided by Aggarwal (2007), which involves the upgrading of the education system to fulfil the knowledge needs of the zone units. Aggarwal added that local employees of multinational corporations (MNCs), in some cases, are sent to their headquarters abroad or elsewhere for middle and, more often, higher management training, and advanced technician training.

The success of zones, in the long run, depends mainly on the overall improvement in the investment and business climate and the extent to which projects in the zones are linked to activities in the local economy (OECD, 2009). Therefore, there should be first needed a degree of technological compatibility (or absorptive capacity) between foreign and domestic entrepreneurs to potentially demonstrate the technical, managerial and marketing know-how to enable the local firms to upgrade domestic entrepreneurial skills (Madani, 1999). Furthermore, MNCs' activities must be in line with the comparative advantage of the host country to be able to upgrade value addition activities (Frick et al., 2019).

Regarding forward linkages, it refers to the increasing demand for exports as well as domestic consumption (Farole & Akinci, 2011). The earliest zone models suggest that SEZs were following an *enclave* model in which domestic consumption and connectivity with the host economy were highly restricted to protect against unfair competition. However, more recent models realized that if countries do not allow domestic sales of SEZ products, it is impossible to define firm linkages, and hence, increase the demand. Policymakers ought to include in the legal framework whether domestic sales are allowed in the country, to verify the possibility for the host economy to reach dynamic benefits.

As global governments have paid several attention to this trade policy, some institutions such as the OECD, the World Bank, the ILO and World Customs Organization (WCO) have conducted several research and developed principles that are now considered best practices for the majority of zones' programs (Masamba, 2014).

Conclusion

This subchapter has intended to focalize on finding some evidence on the contribution of SEZs in the host economy in the short and long run. By revising the literature, it is found that the most common policy outcomes are, by definition, quantitative macroeconomic objectives, such as FDI, rise on exports and increase of employment opportunities. Numerous scholars have recognized the components to be included in the SEZ Act in order to foster the policy goals.

First, the most consensus FDI attraction research has revolved around the importance of the incentives package and market openness, the identification of the proper industrial sector and the promulgation of labour laws. Second, the employment is emphasized by location nearby labour pools and quality workforce according to the skills needed. Finally, export growth is generated due to the introduction of foreign-owned entities and the reduction of trade barriers and customs procedures.

The Design of Special Economic Zones

This subchapter analyses the most appropriate procedures to design a SEZ. According to Cirera (2014), many emerging countries seek for investments in a wide range of sectors, especially in those ones with more value added and also for increasing export rate. Aiming to achieve the abovementioned policy objectives, each country is required to undertake a strategic planning to understand the domestic market conditions and deliver the most appropriate policy to achieve trade liberalization. The most comprehensive guidance on international best practices on SEZ legal policy formulation deal with six elements: (1) the type of zone to be developed, (2) the policy framework, (3) legal and regulatory framework, (4) institutional framework, (5) incentives framework, (6) physical development and management of zones (OECD, 2009).

Strategic Planning

Developing an SEZ is a robust business as it requires deliberate planning and a long term is taken for payback on investment. Some authors (Aggarwal, 2017; Farole & Akinci, 2011; JICA, 2013) have agreed on the importance of undertaking strategic planning before developing a conducive legal framework to outline what is expected to achieve and the roadmap that should be taken.

Figure 4 shows the fundamental steps to be considered in policy implementation. The highly recommended first step is to understand (1) the macroeconomic context of the country, (2) the development strategy or national goals and (3) the institutional impediments or constraints to achieve such goals (ADB, 2018; Aggarwal, 2017).

Figure 4: Steps on policy implementation

Source: ADB (2018) with few modifications

By identifying the previous elements, the planning also aims to detect the strengths and weaknesses of the economy (e.g. country's competitiveness, comparative advantage, market positioning, potential opportunities) as well as its available resources such as land or type of workforce. This will allow policy-makers to decide which kind of policy to address countrywide (SEZ is not always the correct one).

In case that the national government would rather choose SEZ as the most appropriate policy, the second step deals not only with the specifications of the vision, mission and expected outcomes of the development strategy but also to choose the most appropriate type of zone to address the country's goals. In the **Table 5** below, the starting requirements are listed according to the typology of zone which may be suitable for the country.

Table 5: Starting requirements of the typology of zones

Type of zone	Starting Requirements
Trade-based	Existing trade-related comparative advantage – location and trade infrastructure (e.g. ports in international routes)
Manufacture-based	Significant labour force; relatively favourable location; decent national infrastructure; trade preferences to key markets
Service-based	Significant investment resources for potential infrastructure; decent high-skilled workforce; large land area for industries agglomeration.
Science-based	
Comprehensive-based	Substantial investment resources; large land area; potential for significant agglomeration; willingness for substantial autonomy of governance and radical testing of reforms
Cross-border	High-level governance coordination and organizational mechanisms

Source: self-created from World Bank and JICA (2013)

All in all, making strategic planning will help to establish a clear and transparent business environment for the legal and regulatory framework of SEZs (Farole & Akinci, 2011). It is more likely for those countries which have identified their institutional constraints and development strategy, to perform better on the approach preparation than others and thus succeed.

Policy Framework

The design of the policy approach is not an easy task to undertake by policy-makers. After defining the needs of the country, the World Bank (2017) postulated that the first step in any SEZ implementation is to set-up, develop and design an SEZ Program which primarily shall include (1) the incentives package, (2) the requirements imposed to benefit from the incentives, including the firm's ownership and the investment requirements, and (3) the program characteristics.

Regarding the requirements that tenant firms must satisfy to opt for the SEZ incentive package, each program will target a typology of companies depending on the industrial sector, comparative advantage, the ownership (partially or fully foreign-owned) and the minimum level of investments. Therefore, due to the writing of these SEZ programs, the ability to attract investors, the creation of jobs and facilitation economic performance and economic growth may be affected (World Bank, 2017).

There are some other elements which have been taken into account during the definition of SEZ programs. In the first place, more and more, international rules compliance with WTO obligations, RTAs, non-discrimination principles and ILO standards are in the spotlight. Although SEZs are beyond national boundaries and rules, the main organizations have postulated that zones' programs must be compliant with such international rules. Secondly, there should be an evaluation of the role of public and private sectors in the zone development, as there will be different impacts depending on the zone management.

The heterogeneity of SEZ programs around the world has led researchers to examine the effectiveness of policy outcomes depending on the SEZ program elements. Multiple empirical studies[9] have evaluated the incentives package (Le Roux & Schoeman, 2016), zone management (Herlevi, 2016), infrastructure (Zhukovskaya et al., 2016), industrial sector and location, among others. To do so, the zone success have been measured by using policy outcomes, mainly FDI inflows.

In the next subchapters, a wide explanation of each part of the SEZ Program will be elaborated, and thus, this will allow to deeply detect whether the SEZ programs of BRICS have fully or partially included them.

Legal and Regulatory Framework

Once the strategic planning is established, the following step is to adopt an appropriate legal and regulatory framework without losing focus on the policy outcomes already established.

A legal framework establishes an unambiguous set of rules and procedures guiding the entire process of site regulation selection, investment, development, licensing and operations (JICA, 2013). These laws provide a special regulatory regime for the establishment and operations of SEZs and specify the rights and obligations of SEZ authorities, zone developers, operators and users (Farole & Akinci, 2011; UNCTAD, 2019). Besides, it addresses the fundamental basis for land access, provision of infrastructure and for labour and environmental regulations (Farole & Akinci, 2011).

It is generally agreed that the legal framework should not be rigid, but comprehensive and transparent (ADB, 2018), which means that it should be an open-access data that government areas can utilize and understand more information as well as allowing the private sector to exploit it for the benefit of the economy. According to the World Bank (2017), an effective SEZ legal framework ought to be separated to ensure that the legislative body not only is consistent, transparent but also flexible and responsive to the needs of the investors and the public goods.

---

[9] The review of these studies are not contemplated in the present study.

Rules and applications that apply in SEZs can be found either in the national's general regulatory framework or there can be an SEZ-specific regulation, such as SEZ Acts and Regulations, which contains more specific elements of the policy. **Figure 5** shows how SEZ-specific rules can be effectively differentiated in three levels of legal instruments:

Figure 5: SEZ-regulation levels

SEZ Act	• Highlights of the zone development, including policy objective, industrial sector, incentives package, among others
SEZ Regulations	• Further explanations of specific topics of SEZ Act, such as labour and environmental law
SEZ-Specific Procedures	• Operational facts specifically mentioned in each area.
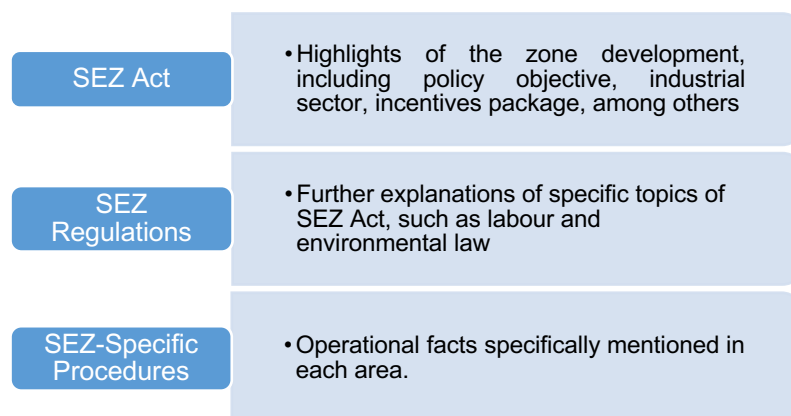
Source: self-created from World Bank

The first level, **SEZ Acts**, is promulgated by the highest legislative body, which is the central government of the country. The review of the literature shows that up to date, 115 countries formulated 127 SEZ Acts, especially the developing countries (80%), and it is composed by the highlights of the zone development (e.g. objectives, location, industrial sector, incentives package, land ownership) (UNCTAD, 2019).

Recently, a considerable amount of research has focused on the global best practice elements for making up the SEZ Act. According to the UNCTAD report, 61% of SEZ laws indicate the main objectives of the zones. The most frequently cited goals are (1) to attract FDI inflows, (2) to create employment opportunities, (3) to increase exports and (4) to accelerate the development of economic activities, which are quantitative- and dynamic-growth objectives. However, little is noted about socioeconomic objectives. For instance, to improve labour rights, to become environmentally-friendly or to balance labour wages between genders.

Furthermore, SEZ Laws usually enables the setting up of a variety of zone models (UNCTAD, 2019). The Regulator, according to the country's goals, must include the broadest possible range of allowed activities and kinds of zones. Only a few SEZ Acts mention the specific industrial sector in which zones are going to focus. This means that severe licensing requirements and slow administrations will not be a constraint. Land use and infrastructure are also conceived as an adequate way of planning the type of zone that may be installed and to attract private developers. The typology of firms will vary according to the kinds of zones provided in each country.

Finally, zone regulators must consider FDI facilitation rules including the granting of long-term and high-quality investment incentives for investors' business operations, trade and customs

33

streamlined procedures and relaxed FDI entry rules. For example, developing the usage of streamlined procedures (called single window office or *one-shop stop*) for business registration in the form of a simple declarative investment registration system (The World Bank Group, 2008). Also, defining the rights and duties of the different actors and boards in any SEZ development, especially of the SEZ Authority and private sector.

The second level of legislation are the **SEZ regulations** (or decrees). Normally, the SEZ Act is together committed with some specific policy considerations which are not strictly mentioned in the fundamental law (UNCTAD, 2019). In some specific areas, such as environment and labour issues, governments are allowed to either apply national rules to SEZs or to promulgate specific laws beyond the national regulatory framework. The Regulator shall consider whether further explanations are required from the prior abovementioned content as well as the specifications on labour and environmental issues.

The third and last level consists of the **SEZ specific procedures** that deal with operation facts that condition firm characteristics. These specific SEZ-level laws specify the particularities of a zone, including the targeted business activities, land accessibility.

Institutional Framework

The institutional framework is complex to define due to a large number of actors both public and private, with different responsibilities. Although there is scarce evidence on a uniform model for setting up an institutional framework, there are some key stakeholders which are common in any SEZ regime: (a) zone authority, (b) zone developer and (c) zone operator. However, **Figure 6** shows the complete picture of the stakeholders on any SEZ Program. Their responsibilities and rights are explained in detailed in the SEZ Acts[10].

Figure 6: Stakeholders on SEZ Program
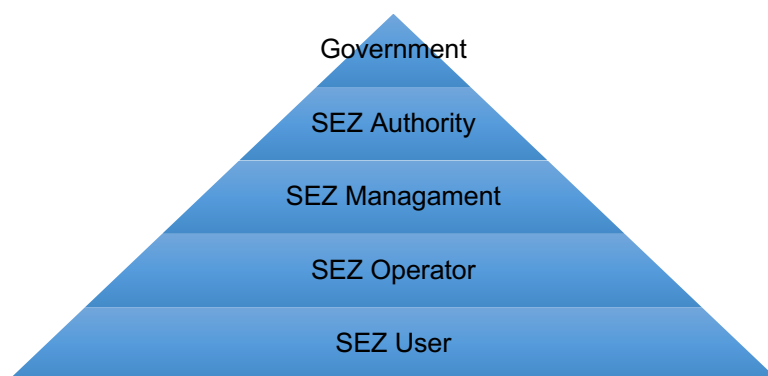
Source: self-created

---

[10] For further information about the rights and duties of the institutional roles might be found in JICA (2013).

It is generally agreed that the **Zone Authority** is the most important institutional actor in any zone program. Current theories hypothesize that international best practice suggests an autonomous and powerful government which oversees the administration of dedicated laws, regulations and practices inside the zone, meaning that its functions must preferably move away from owning, developing or operating zones (Masamba, 2014). The lack of impartiality would not eliminate the conflicts of interest, as it promotes confusion of goals and responsibilities and would perform for its own benefit.

In some countries such as China, the central government has decentralized a single SEZ authority into local administrations to alleviate high governance bodies leading to effective coordination in delivering the SEZ policy outcomes (COMCEC, 2017).

In addition to autonomy and independency, researchers agreed that the Zone Authority must be inclusive and have the authority to coordinate across the range of the stakeholders. This means that project approvals, licenses (one-shop stops) and private developers' assistance must be guaranteed (ADB, 2018; Masamba, 2014).

The second stakeholder is the **Zone Developer** which may be either a private firm or a public-private partnership (PPP). It is responsible for finances designs, planning and managing the development of the infrastructure and facilities within the SEZ (COMCEC, 2017). The main functions and duties of the developer board can be: (a) to formulate operational policy procedures; (b) to approve the proposals for establishing firms in the zones or (c) to give necessary orders to the Zone Authority to ensure efficient management.

The third subject is the **Zone Operator** which provides services within the zone. It is mostly the private sector that manages day-to-day service provision to investors, tenants and workforce. It provides waste removal and treatment, maintenance, security within SEZ-based firms.

Incentives Framework

Almost 80 per cent of the worldwide SEZ laws provide an incentive package for investment attraction (OECD, 2019). There is a numerous range of financial incentives and benefits for companies that any government might grant and name in the Act (COMCEC, 2017; Masamba, 2014). While past studies strongly believed that they were important key drivers of investment into the zones, more recent research (Farole & Akinci, 2011, 2017) pointed out that incentives do not guarantee any zone success in terms of attracting foreign investment inflows.

Numerous scholars (The World Bank Group, 2008) have recognized that the provision of a high-quality incentives package may create an immensely comparative advantage. Two kinds of incentives shall be differentiated: fiscal and non-fiscal incentives. In the past, the fiscal and financial incentives provided by governments were the engine of attracting foreign investors.

At present, given the level of FDI competition (so-called *race-to-the-bottom*[11]) within global zones, it is more unlikely to provide a unique incentive package. Although fiscal incentives may be limited, more and more, non-fiscal incentives seem to gain more significance within the incentive framework.

On the one hand, the most common fiscal incentives may apply to corporate tax holidays, import tariff exemption, local and indirect taxes exemption (e.g. VAT or municipality taxes) and land taxes exemption. Some countries allow the deduction or exemption of personal income taxes (Le Roux & Schoeman, 2016). On the other hand, non-tariff incentives offer improvements on regulatory and administrative regimes. The most well-known benefits rely on streamlined procedures for permits and customs services (or One-Shop Stop), on-site and off-site infrastructure, domestic sales allowance and foreign ownership share.

A current line of research based on more comprehensive zones, where the SEZ concept goes beyond plain trade- and manufacture-related activities, has pointed out that investors are not seeking fiscal incentives anymore but other types of benefits which rapidly stimulate administrative tasks and paperwork. Although past studies conceived fiscal incentives as a success key factor, more and more, recent research has focused on other success-decisive factors such as location, management or type of activities in the supply chain.

In today's world, it is extremely difficult for an SEZ to become successful as a result of its comparative advantage in the incentive package, due to the *race-to-the-bottom* competition. The incentive package may be stimulation for investors in the short run. However, in the long run, there is the uncertainty of not knowing whether the investors will stay whenever incentives expire.

Establishment

Following the leads of the zone designation criteria mentioned in the strategic planning, the government must have already chosen the type of zone that will fulfil the needs of the country.

A group of academics have recognized the importance of the geographical location as a relevant factor, which can condition the dynamism of the SEZs concerning the type of economic activity. Moreover, zones with better provision of infrastructure would be expected to exhibit larger and more positive effects on success (Madani, 1999; The World Bank Group, 2008). Other location-decisive factors may be closeness to consumer markets and cities, labour pools and transport network (Aggarwal, 2017). The **Figure 7** below shows the important characteristics of the most reliable findings.

---

[11] Many scholars have designated *race-to-the-bottom* as countries compete for FDI inflows by providing the most generous policy.

Figure 7: Location factors for SEZ establishment
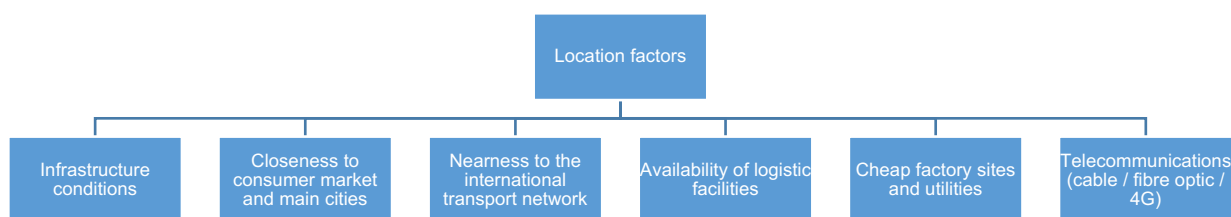
Source: self-created based on Aggarwal (2005), World Bank (2017), Viswanadham (2006) and Masamba (2014)

Although not many SEZ Programs have included the type of location, that will exclusively be dedicated to the use of the zones, the geographical location is something that governments should consider.

According to the OECD report, less than 20 per cent of SEZ Laws mentions the provision of infrastructure as a promotional tool. It is generally agreed that there are three levels of infrastructure which are critical for SEZ development: (1) off-site, (2) on-site and (3) social infrastructure.

Firstly, the central government or the Zone Authority, in most of the countries, provide off-site basic infrastructure such as the supply of power, gas, water and telecommunication system from the national network, among others. In a minor set of countries, the establishment of customs facilities may be relevant to go ahead of customs procedures and clearances. Second of all, the development of on-site infrastructure is managed by the Zone Developer concerning in-land buildings, site protection, internal utility network and power generation unit. Finally, just a few SEZ Acts, those of more comprehensive zones, provide regulation for the provision of social infrastructures such as international schools, hospitals, sports club or community centres (JICA, 2013).

Zone Management

The administration body aims to coordinate activities within the zone, ensuring that tenant companies are receiving promised services and advocate for companies in the zone in interactions with the government (Farole & Akinci, 2017). Moreover, the administration committee also approves FDI projects, site-building and improving the infrastructure.

For many years, SEZ management and ownership issues have increasingly been a focal point in the literature. Most of the authors (e.g. Gibbon et al., 2008; Le Roux & Schoeman, 2016; Moberg, 2014) have pointed out the rise of private zones is the perception that these zones are more successful than most public ones because of the lack of funding of the latter. This is in line with

the findings of Madani's assessment (1999) in which is stated that profit-making entities are more likely to enhance competitiveness and efficiency-seeking activities.

Although The World Bank Group (2008) reported that private zones are both cheaper to develop and operate and bring in better economic results, Frick (2017) analysis showed that the idea of the private sector being more effective than publicly-run ones is not confirmed at all. Moberg (2014) went further looking up at the political economy of SEZs and she emphasized that inefficiency and lack of interest of officers and corruption obstruct zones' success. As a matter of fact, the public sector must involve private investors in the location decision-making or let a local zone regulator design their policies.

There is a second growing trend towards a Public Private Partnership (PPP) which is confirmed by international empirical evidence (Masamba, 2014). While the role of public sector would be financing all external infrastructure, providing land and drawing up the regulatory framework, private sector would be in charge of financing internal infrastructure, managing the zone and accessing to additional financing.

Conclusion

Thanks to all the case-based studies on the regulatory framework in specific countries, it has been possible to establish a global image of the procedure when elaborating the SEZ policy. From the identification of macroeconomic needs, the powerful comparative advantage and the institutional impediments to the design of each part of the legal framework. It is important to emphasize that strategic planning is a decisive step to implement SEZs.

One must say that SEZ is not always the appropriate policy for the country to formulate. However, if so, all kinds of disputes or arguments must be considered in all components of the legal framework, so that this affects the results of the policy.

The identification of all the components of the SEZ legal framework has allowed this study to obtain the main fundamental basis for the new database to analyse SEZs for policy designation: the key variables or items to identify on the SEZ Acts of BRICS. The variables can be distinguished by four general topics: (1) institutional for those referring to the rights and responsibilities of actors and boards; (2) incentives for mentioning the advantageous package; (3) establishment for those making reference to the location, industrial sector…; and (4) zone management for those dealing with the powers within the governing bodies over the zone operation.

The role of SEZs in BRICS

The present study suggests a group of countries which have been potentially active in their economic development. BRICS group was extremely popular during the first decade of the 21st century, as China mainly transformed the overall economy by setting up SEZs along the East Coast. The success of the SEZ Programs encouraged nearby countries to change towards the same export-promotion strategy as China. BRICS are great-extended countries, with a large amount of human capital and resources, in which investors are interested in investing due to the potential development with the usage of SEZs.

Although there have been multiple cross-country analyses about the impact of SEZs in the economy of groups of countries (e.g. South Asia countries, Four Asian Tigers[12] or the Middle East), little is known about the SEZ development within BRICS in the last few years. Nonetheless, there have been extended case-based studies on these five countries, to identify success and failure elements by comparing the policy designation with the policy outcomes.

The first part of this subchapter gathers up extended information about the economic profile of the five countries (which compose the BRICS group) to analyse the exact stage of development they are. The second part aims to identify the evolutionary stages of SEZ development as well as to emphasize the results of the policy.

BRICS, the future engine of the global economy?

The formation of the BRIC alliance in 2001, and later on to become the BRICS, formed by Brazil, Russian Federation, India, People's Republic of China and the latest member, South Africa, has been a great deal of academic speculation on the geopolitical and development influence of the group in the global political economy (Thompson & Tsolekile, 2017). Although these five countries are different economically, socially and politically (O'Neill, 2002), the collaboration between them is aimed at achieving infrastructural developments, sustainable economic growth, increased consumption and international trade (Agrawal, 2015), especially in terms of FDI inflows.

The BRICS group might be defined as the largest of the middle-income economies and together account for over a fifth of the global economy (almost 25 per cent of global GDP). Besides, according to the World Bank, together they make up over 40 per cent of the world's total population. The rise of BRICS countries has been noticed so quickly that currently has a great impact on the global economy. The most recent forecast, presented by CEPII, has suggested that by 2050, BRICS economy will account for one third of the global GDP, which means the group would be slightly over G7.

---

[12] Four Asian Tigers is the designated name for South Korea, Hong Kong, Singapore and Taiwan as these economies experimented rapid industrialization and high growth rates.

The country profile of BRICS

BRICS economies are not geographically located in the same world region, but belong to the largest group of middle-income economies that represent more than one-fifth of the global economy. The only thing common between these five countries is the potential interest in rapid economic development they have experienced lately in terms of trade liberalization and overall economic transformation. To obtain an accurate country profile in accordance with the establishment of SEZ in each country, research on macroeconomic indicators will be defined from the publication[13] of the first SEZ Law.

Hereafter, a bunch of indicators, put forward by organizations such as CEPII, the World Bank or OECD, will be presented to evaluate the country's performance on trade facilitation, logistics performance, international trade and comparative advantage. These have been carefully chosen aiming the importance they play in establishing SEZs. As it has been stated in previous chapters, SEZs deal with differential incentives which promote international trade and logistics performance. Therefore, the establishment of SEZs is normally getting higher rates to those indicators than the rest of the country. The selected indicators include (1) the Revealed Comparative Advantage, (2) FDI Regulatory Restrictiveness Index, (3) Trade Across Borders, (4) Logistics Performance Index and (5) The Global Competitiveness Index.

Before proceeding to analyse indicators, from the BRICS economies, China is the leading force which accounts for more than 15% of the global GDP, and 17% of the global exports, mainly to Europe and North America. This country has reflected the success in setting SEZs up as well as large-scale projects such as Belt and Road Initiative (Oehler-Şincai, 2018) to connect production areas with market consumption. The growth of China is followed by India (3,28% of global GDP), Brazil (2,78%), Russia (1,96%) and South Africa (0,48%).

The first indicator presented is the Revealed Comparative Advantage (RCA), which is formulated by UNCTAD. This indicator presents the sectors of the economy in which the country has a relative difference in productivity and, consequently, ease of export. The RCA within BRICS countries is treated differently. While China and India are commonly known for their production and exportation of miscellaneous manufactured goods, from garments to electronic equipment or jewellery, the Russian Federation and South Africa are following an export-based strategy which is specialized in material extraction, such as mineral ores or metals. Finally, Brazil has experienced some high productivity in the agricultural products sector (e.g. sugar, honey,

---

[13] The first publication of SEZ Acts within BRICS are the following: China: 1986; Russia Federation: 2005; India: 2005; South Africa: 1993; Brazil: 1988.

oilseeds), tobacco and mining. While the trend of comparative advantage has remained the same as it was before the SEZ Act was enacted in Brazil, South Africa, the Russian Federation and India, China has diversified the industries sectors and has got specialized in manufactured goods.

The second indicator is based on the FDI Regulatory Restrictiveness Index (FDI Index) presented by the OECD. It measures four types of statutory restrictions on foreign direct investment: (a) foreign equity restrictions, (b) screening and prior approval requirements, (c) rules for key personnel, and (d) other restrictions on the operation of foreign enterprises. This index provides an overview of the trends of the FDI policy liberalization within the national boundaries. Close economies with high restricted FDI rules are more likely to set SEZs as they claim for more liberal investment rules.

Even though the FDI Index is not a full measure of a country's investment climate, FDI rules are a critical determinant of a country's attractiveness to foreign investors. A range of other factors come into play, including how FDI rules are implemented. A country's ability to attract FDI will be affected by factors such as the size of its market, the extent of its integration with neighbours and even geography (Mistura & Roulet, 2019), which is in line with Demirhan (2008).

Figure 8 below shows the data on the degree of restriction of FDI from 1997 to 2018 (the only database available) between BRICS economies. Generally speaking, the pattern over time has shifted from more-restricted rules towards liberal FDI rules in the majority of the BRICS. The Russian Federation is the exception, which has slightly increased the FDI index in the four last years. Surprisingly, China and India have the highest scores during the latest years (apart from Russia), which is tremendous ironic as they have been the most noticeable examples in economic development. Brazil and South Africa have remained stable during the whole period of analysis.

Figure 8: FDI Regulatory Restrictiveness Index (1997-2018)
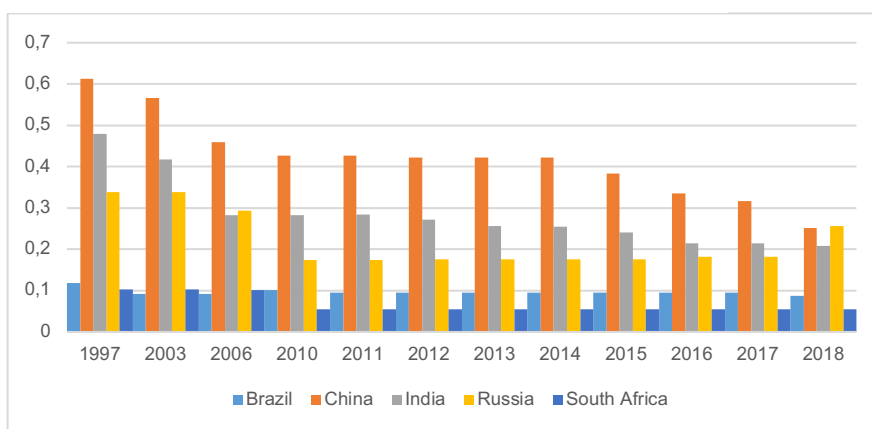
Source: OECD

The third indicator is presented by the World Bank, specifically *Doing Business*, which measures business regulations. In this case, Trade Across Borders (TAB) records the time and cost related to the logistical process of exporting and importing goods. It is measured by three types of procedures: (1) documentary compliance, (2) border compliance and (3) domestic transport. This helps to understand to which extent the existence and use of the SEZs are relevant since the fact of introducing or extracting merchandise does not need to go through customs controls. Not only tariff-related tools have played an important role, other trade-related transaction costs have influenced small traders. Logistics and freight expenses, customs administrative fees and border costs have become more important lately (non-tariff procedures).

Figure 9 presents the time and cost of exports procedures. The countries with more difficulties are South Africa and the Russian Federation. Border compliance is associated with the nation's customs regulations and those relating to other inspections that are mandatory (e.g. phytosanitary inspection). This represents a high cost and time to the BRICS group except for China. Documentary compliance does not seem to be very costly, but it does require plenty of time for South Africa. Regarding imports, South Africa also presents the highest index in either border compliance cost and time. This means that it does not facilitate trade in terms of non-tariff incentives. For the Russian Federation is also quite costly to import commodities, while in India, it requires a lot more time for border compliance than the rest.

Figure 9: Trade Across Borders (exports) in 2019
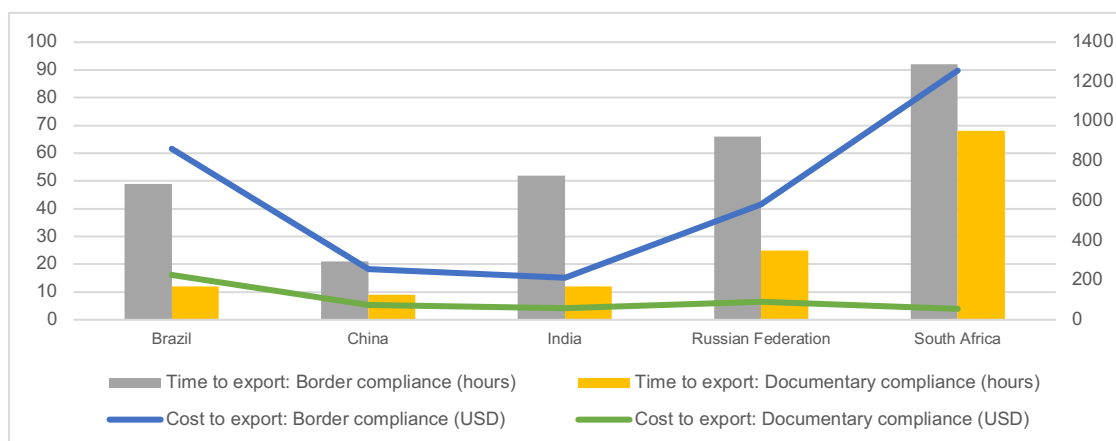
Source: Doing Business (World Bank)

The fourth composite indicator is the Logistics Performance Index (LPI), which is also put forward by the World Bank. The degree of efficiency of a country is measured given six composite indicators related to international supply chains in a radar-type chart. It gives an overview of the challenges and opportunities they face in their performance on trade logistics and what they can do to improve it.

42

Figure 10 below shows that China and South Africa are the best performers within BRICS economies in this indicator. The most highlighted are the one related to infrastructure and timeliness. Both countries have developed high-quality trade-related infrastructure (e.g. ports, railway network, road network) and shipments are delivered within the scheduled or expected delivery time. The less-developed country is the Russian Federation. The two main less-featured indicators are Customs and Tracking and Tracing, which means there is not enough efficiency on border controls, clearances processes and ability to track and trace the shipments. Brazil and India are sharing the same results in most of the indicators.

Figure 10: Logistics Performance Index (2018)
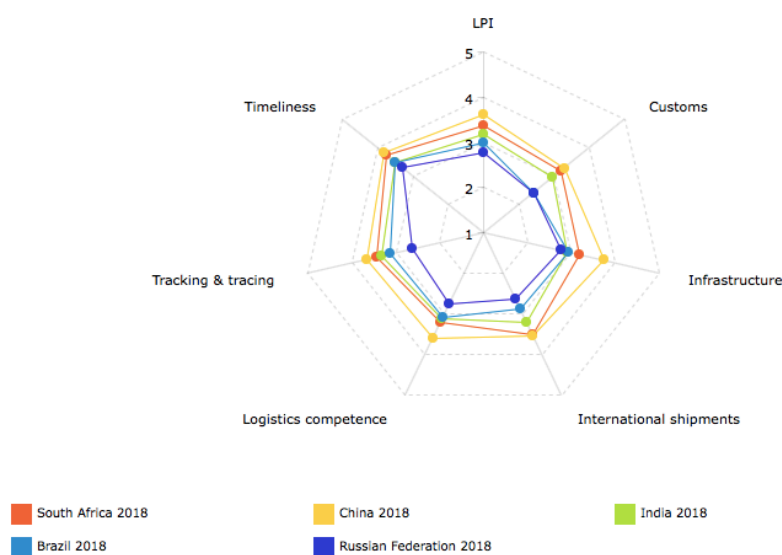
Source: The World Bank

The last composite indicator is dealing with the Global Competitiveness Index, which is defined as the set of institutions, policies and factors that determine the level of productivity of a country, and in turn, the level of progress that the economy can achieve. It is based on successive aggregations of factors. At an aggregate level, the index is the average of the scores of the 12 pillars.

China occupies the 28th place, and as abovementioned, is by far the best performer among the BRICS economies: 15 places ahead of the Russian Federation, 32 places ahead of South Africa and some 40 places ahead of both India (68th) and Brazil (71st). Its success is determined by the macroeconomic stability and well-developed infrastructure. The labour market is affected by the insufficient protection of workers' rights.

The Russian Federation ranks 43rd globally. Its improvement derives from the increase of public finance, innovation capability and R&D expenditure. Insufficient access to finance by private entities is limiting the competitiveness of Russian firms at multiple levels. South Africa has climbed

up to 60th place. This is the result of developing transport infrastructure in the region and it is among the top countries in Africa for market size. Institutional quality has also improved. Aspects of public administrative efficiency have been enhanced. Government adaptability remains limited.

Brazil (71st place) is still fighting for improvement. It has made some steps forward in the field of simplification of regulations to start and close a business, labour market efficiency, innovation capability. Besides, it takes to benefit from the size of the market. There is excessive red tape and lacks long-term vision from the government. Along with Brazil, India (68th) is among the low-performing BRICS, although the competitiveness profiles of the two economies are quite different. However, India does rank high in macroeconomic stability, market size, and financial access. Lack of trade openness, product market efficiency, insufficiently develop active labour market regulations.

The concluding remarks of the above indicator group analysis refer to their relationship with the establishment of SEZs. In this sense, each of them analyses the industrial sector with a comparative advantage, the degree of restriction of FDI, the logistical impediments in terms of time and cost or infrastructure, shipments or customs declarations. All these indicators are contemplated in the regulatory framework of the SEZs to maximize the number of SEZ-based companies.

Characteristics of SEZs within BRICS

The most recent report (UNCTAD, 2019) acknowledged that the share of SEZs within BRICS was almost 57 per cent of total amount worldwide. However, each country has experienced a different way of developing regulations, implementing free zones and yielding good policy benefits. The aim of this subchapter is to briefly describe the experience of all of them and identify the most notorious and prominent facts.

The Chinese Model

To begin with, the example of China has achieved the greatest objectives in such a policy. In 1979, the central government of the Republic's People of China promoted an Open-Door policy with flexible measures to promote foreign trade and investment (Fenwick, 1984). This directive came up with the rapid establishment of the first four SEZs in China: Shenzhen, Zhuhai, Shantou and Xiamen; which were created as a safety valve for opening up the economy to foreign investment (Aggarwal, 2017). This country designated comprehensive-zones rather than old-fashioned Export Processing Zones or Free Trade Zones. China went beyond the enclave model, where zones do not keep contact with the rest of the host economy. It began with the idea of SEZs being kind of economic laboratories to test capitalist policies. In 1980, the Regulations on Special Economic Zones in Guangdong Province were approved to set the basic legal framework for SEZs in the region.

The four mega towns were located in coastal areas, endowed with cheap land and trade and entrepreneurship participation. China aimed at creating high-end clusters of exporting firms operating mainly in lower steps of the global value chain. Wang (2010) found evidence on Chinese SEZs that 58% of the firms were in the form of foreign-invested and export-oriented. This study also provided some insights into the importance of local economic development.

Some research (e.g. Chen, 2009) has been especially undertaken around the evolution of Shenzhen SEZ as it has become the largest and most successful zone in the world. Shenzhen represents the dynamics of new city-building in China. The dimension of Shenzhen has evolved over an area of almost 2,000 km^2 with a population of more than 10 million. The intention was to create an environment conducive to the globalized free market. The results were sustained by the extended implementation of favourable policies and rapid and continued build-up of large, state-financed infrastructure (Chen, 2009).

One of the key factors that make the Chinese Model very case-specific is the decreasing control of the central government and the increasing balanced interaction of local governments. Although this topic is out of the scope of the present study, some studies[14] (e.g. Liu & Cai, 2018; Wang, 2010) have proposed arguments to explain the evolutionary stages of SEZ development in China, in terms of management. In all, the combination of decentralized experimentation and ad hoc central interference is a key to understand China's economic rise.

This change in management affected the incentives program and the industrial focus, which may differ from national- or provincial-level controlled zones. In centrally-governance level, there is showed to be a commitment to extend the necessary infrastructure and to make available all conditions to provide an attractive investment climate. However, the role of the latter ones is more industry-specific and preferential incentives are limited (Herlevi, 2016; Lu et al., 2015).

The fast development of infrastructure and the strategic geographic designation area as well as the proactive government with market-oriented reforms have made Chinese SEZs a total success, acknowledged by the whole literature on SEZs.

The Russian Experience

The Federal SEZ Law, enacted in 2005, is a general legal framework which presents the basis of the establishment and operation of the SEZs in Russia. Since the enactment, 130 SEZs have been established under several SEZ-specific laws. The preferential regime for investors is still based on three elements: infrastructure construction, tax and customs privileges, and simplification of administrative procedures. It is also stipulated that the establishment of an SEZ

---

[14] An extensive explanation on the Triple Helix Framework is described in Liu (2017), including the different stages of development and main features of the model.

requires a federal government decree. As of April 2019, 26 SEZs were operating in the country. This country has designated four major targeted sectors and industries of SEZs[15]: (1) industrial, (2) technological, (3) touristic and (4) logistical.

The creation of SEZs at first in Russia was chaotic due to the lack of proper legislation. It was attempted to undertake a quick implementation of SEZ projects which began to fail (Sorokina, 2014; Zhukovskaya et al., 2016). In Zhukovskaya study, the authors identified existing problems in comparison with the policy objectives: (1) poorly-developed infrastructure, (2) low levels of investment attractiveness, (3) lack of access to a source of venture capital. Sorokina went even further claiming that the investment climate is still not favourable for companies to invest even though SEZ Act in Russia offers not only a wide range of tax incentives but also the "single-window" mechanisms.

Another set of studies (e.g. Sosnovskikh, 2017) reveals, from the political perspective, that the government and the lack of autonomy of the governing bodies within SEZs implied high state interference into business processes. Besides, the lack of financial funding, political instability and overall business uncertainty were the main prevent factors for the sustainable growth of the economic zones.

In all, the suggestions of studies about Russian experience is the involvement of private participation, the improvement of the investment climate and setting up accurate regulations to the reality of the country: comparative advantage industrial sector, an autonomous governing body in charge of the implementation of the project (Kuznetsov & Kuznetsova, 2005; Sosnovskikh, 2017).

The South African failure

The South African government first adopted the SEZ policy with the name of IDZs (Industrial Development Zones) in 1993. The adoption of this policy came at a time when the country was going through a double-transition, which included both political transformation and economic deregulation (Masamba, 2014). The government was exclusively interested in the development of oil, gas, minerals and other mining sectors.

The potential goal of setting IDZs was to attract FDI by export-oriented manufacturing firms. The first IDZ Act was elaborated in 1993 and dealt with several aspects such as designation and administration of IDZs, functions of provisional and other operators, development and operations of IDZs, customs rules and procedures, among others. Tax and customs administration was controlled by the Minister of the South African Revenue Services.

---

[15] Zhukovskaya (2016) shows the location of each Russian SEZs and a brief explanation about the rationale of each group.

Under this scheme, South Africa could develop four[16] IDZs, which the most popular was Coega IDZ in the Eastern Cape. The four of them failed to attract FDI, which was their primary policy objective. Masamba (2014) argues, on the assessment of South African IDZs, that one of the main reasons for failure was the ineffective legal policy framework, especially the incentives package offered[17], management and operations allowed within the IDZs. By that time, IDZs were exclusively government-owned, promoted and financed and besides, zone management was in hands of local governments.

Due to the lack of success of achieving expected results from IDZs, and, in addition to that, the development of the formation of BRICS, there was an SEZ program being proposed to be implemented. The SEZ Program was intended to address the issues which resulted in the IDZ Programme not meeting its objectives by creating a new regulatory framework format that will control the operation and designation of the new SEZs (Le Roux & Schoeman, 2016). The government has also reconsidered the idea of SEZs and by that time it was focused on the provision of the world-class infrastructure (Chinguno, 2009). Although the SEZ Act was not written until 2014, the main goals for establishing SEZs in South Africa, were to promote natural resource-based SEZs as well as generic quantitative objectives (Le Roux & Schoeman, 2016).

The South African SEZ Program concludes that not only the lack of a proper incentives package is needed but also must the central government be in coordination with the regional governments to reach consensus with stakeholders and primary investors (Chinguno, 2009). The program was first commissioned in 1999, and by the time Chinguno examined the SEZ phenomenon in South Africa, SEZs did not contribute to job creation and reduction of unemployment. However, the positive part is that the SEZ Act in 2014 stated that the purposes of SEZ establishment are the creation of decent work and other economic and social benefits, including the economic participation by medium-sized enterprises and cooperatives (UNCTAD, 2019).

The Indian attempt

India kicked SEZs off among the south Asian region in 1965 to facilitate the economic development of the region as well as create new employment opportunities. As a part of the new export-oriented policy adopted by the Indian Minister of Commerce in 2000, the existing EPZs became SEZs which were manufacturing-based zones created by both the government and the private sector. A small number of scholars (e.g. Hyun & Ravi, 2018) have demonstrated that there is an increasing trend towards private ownership of the SEZs in India. These were opened to development by both the public and private sectors, resulting in 70% of the SEZs being either private or joint sector initiatives.

---

[16] Coega IDZ (1999), East London IDZ (2003), Saldanha Bay IDZ (2013) and Dube Trade Port IDZ (2014).
[17] The whole package can be seen in Masamba (2014).

India launched the first SEZ Act in 2005 and aimed to push private sector investments to boost economic development. The call for infrastructure development was met with a great number of interested developers. The administrative structure consisted of three levels, a central statutory body, the Board of Approval that deals with setting up zones and units, and the Unit Approval Committee headed by a Development Commissioner at the zone level (Aggarwal et al., 2015).

As of 2016, 221 SEZs began operation across the nation attracting firms through tax exemptions, infrastructural benefits and regulatory concessions, directly employing 1.4 million people and contributing to almost one-third of the annual national exports. In India, all of the SEZs are located either nearby an air or seaport and about half of them are situated in industrially backward areas (Aggarwal et al., 2015). The best performer in India has always been the Santa Cruz SEZ in Mumbai, which is aimed at electronics manufacturing and was established in 1974 (Viswanadham, 2006).

Regarding the economic impacts, SEZs have not only been set up in labour-intensive industries but are also appearing in technology-intensive areas. The first type is contributing to the employment generation and the latter to the diversification of exports and economic activity (Aggarwal, 2010). The results in FDI indicate that FDI inflows are concentrated in a few states of India. The first six states already account for 70% of the total amount (Chakraborty et al., 2017). In discussing spill-overs, there is not much evidence of it, but few significant studies showed that SEZs do not have backward linkages on the surrounding area.

In conclusion, India is a labour-abundant country and competes to get investments in textiles and apparel sector, of which has a comparative advantage, even though other economies such Bangladesh or Myanmar are offering better economic conditions for MNCs. Furthermore, the SEZ policy is not enough alone, there must be a continuous control from the government to reap the maximum benefit of SEZs.

The unknown Brazilian case

EPZ's first Brazilian regime was created in 1988. The prospect of rapid development encouraged the government to promote free trade policies to insert Brazilian products in the global market. An important feature of the South American region is the formation of MERCOSUR in 1991 concerning international trade in the region. The possibility of trade with neighbouring countries may have increased interest in Brazilian EPZ programs.

Although many of them were created in 1994 and have great potential for boosting the national economy and improving the regional trade balance, nothing has happened since (El Alam, 2019). The only successful case-based in Brazil is the Manaus Free Zone, according to scholarly literature, developed in the 1980s. It is located in a strategic geographical area with a river port, and the area has a widespread concentration of large, national industries and foreign, in sectors

such as electronics, watches, bicycles, computers, toys, motorcycles, among others. Some major companies working in Manaus, according to the Ministry of Development, Industry and Foreign Trade, were Nokia, Pepsi Cola, Philips, Samsung and Sony.

Brazil is an open economy that has several advantages also for exporting companies outside the export area, such as various tax benefits, infrastructures; therefore, the EPZ model is not worth it (El Alam, 2019). Better policymaking would help improve the Brazilian economy as well as world statistics. Ironically, while Brazil is a country with abundant resources, workforce and diversification of industries (for example, metals, food and tobacco), it represents only 2% of world exports.

The experience with the SEZs is not relevant as the government did not pay much attention to the policy framework. However, the Brazilian EPZ Regime is increasingly seeking to consolidate the previous model, solving regional infrastructure problems, changing the legal framework on political and economic issues (El Alam, 2019).

Brazil currently has 20 authorized EPZs, 18 of which are fully implemented. They are considering the best industries in Brazil's productive capacity to add value to export-promoted products (for example, high-profile mining, agriculture and industrial parks). In this new EPZ scheme, provided by the Ministry of Industry, Foreign Trade and Services, the incentive package is divided into two main levels: federal and local; depending on the political impact.

Conclusion

The information presented above sheds some light on the larger middle-income economy group, BRICS, and its attempt to build a potential trade policy to increase economic development within the five countries. Brazil, China, India, the Russian Federation and South Africa have endeavoured to formulate an SEZ policy framework to generally boost FDI revenue, exports, and create employment opportunities. However, the legal framework for such a policy is not as easy as it sounds, and therefore, the results have not generally been as their expectations.

The assessment of the country profiles has provided an overview of the difficulties in trade and investment facilitation for this group of countries. Although the evolution has experienced an improvement and specialization of the countries, there is still a long way to go to reach the developed countries.

In the **Annex 3**, a systematic review of the components of the legal framework of the SEZ within BRICS has been provided. This helps to identify the main differences between the countries and better analyse the whole framework.

Conclusions of the Theoretical Framework

The literature review has shown that there is one thing in common about SEZs: a mandatory legal framework issued by the central government of the country; the result of a trade policy to promote trade liberalization through an export-promoted strategy. The formulation of a legal framework is heading to a set of three objectives that are also common to most SEZs in the world: foreign direct investment, exports and employment.

The exponential increase in the number of SEZs has allowed scholars to propose theories to explain the rationale, success factors and the evolutionary dynamics. Early studies suggest that SEZs were trade-related benefits for the local economy, emphasizing the benefits of policies such as employment, foreign exchange income, or increasing GDP. In addition to these benefits, SEZs took the form of enclaves that were not intended to interact with the rest of the economy.

However, later theories seem to indicate that SEZs are more than a policy focused on investments with which a country can develop through knowledge and technology spill-overs. This theory was strongly supported by other additional conceptions. Although the two newest conceptions aimed to focus on a different perspective from the old ones: the political economy that describes how public entities are using SEZ to rent-seeking; and the institutional approach that proposes that the dynamics of SEZ depend only on the role and design of policy, there are no studies considering the design of SEZ regulations. Expressly speaking, the most prominent theoretical approaches have not fully explained the meaning of the policy due to the heterogeneity of the zone designation criteria and the results of the policy outcomes.

Therefore, the present study identifies the literature gap in which no previous study has paid attention to the SEZ policy from a legal framework design perspective. The design of SEZ Acts is considered by experts to be one of the main drivers of economic policy results. To build a strategic methodology, a review of the methodology has found a clear example that a trade policy design evaluation is valid: Preferential trade agreements. The design of the PTA can be evaluated by creating a new dataset that includes composite indicators of the components of these trade policies.

With a target of countries with 60% of global SEZs and a long way to improve their national economic situation, BRICS is the scope of this analysis as they have had a very different political impact on their economies. As these middle-income countries create SEZ with high expectations for improving their decaying situation, the result is heterogeneous with one another.

There is a widespread agreement on the painstaking task of policymakers in executing the legal framework for SEZs, as many variables have to be taken into account. Before continuing to implement this policy, the government should focus on strategic planning to ensure that the SEZ will lead the country to a general transformation. In practice, many countries adopted SEZ policies

which have proved to be very heterogeneous in terms of governance, establishment, incentives and permitted activities. This concludes that a large number of studies have focused on the analysis of the economic impacts of these in the main country, but there is not even a single generalizable trend, especially for BRICS.

Many case-based studies have identified the widest range of components that policy-makers need to frame in legal enactments to achieve the country's economic development. They can be classified into four broad groups: (1) institutional framework, (2) incentive framework, (3) establishment criteria, (4) zone management.

Chapter 3. Objectives

Research problem

The research problem is interrelated between two aspects: Special Economic Zones and the design of the SEZ Acts for policy-making. First, existing studies on SEZs suggest that policymakers may approach SEZs as a temporary tool to enumerate the generally proposed benefits. For example, they increase employability, exports, attract foreign investors, foster human capital development and technology transfers. The extent to which SEZs attract foreign-owned companies depends on the exact design of the policy according to national economic needs. Empirical studies appear to confirm the notion that researchers are paying attention to this policy when it comes to economic development.

Secondly, the design of SEZ Acts is considered to be one of the main drivers of economic policy outcomes by experts. Current research seems to indicate that an SEZ is a special regime for attracting foreign investors and easing trade, separated from the national burdens which require a regulatory framework strictly well designed for carrying out economic activities. Accordingly, a small set of studies have explored the steps on which policymakers must focus when writing the legal framework, including the topics and policy considerations to be taken into account. Besides, there is evidence that some investigations have been able to determine the range of design factors in the provision of the SEZ Act.

The problem with the research of this study is that relatively little emphasis has been placed on critical analysis of the development of the SEZ regulatory framework. The present studies do not attempt to elaborate a careful analysis of national SEZ law, nor a cross-country legal analysis. There have been few attempts to compare policy outcomes and policy designation by case studies: Fenwick (1984) in China, ADB (2018) for Kazakhstan, and cross-country analysis, such as Aggarwal (2015) and Frick (2019) for South Asia and emerging countries, respectively.

To fill the gap in the research, this study aims to establish an empirical analysis by using MVACs that include an amount of items related to the concept. This will allow to conclude about (1) the differences between the policy components within the context of BRICS countries SEZ Acts and (2) the extent to which constructs affects the most in the policy macroeconomic outcomes of SEZs. This study is important for the following reasons:

- o This paper contributes to the studies on the design of international policies.
- o The outcome of this research will contribute to policy-making recommendations and the limits to which future scholars may do further research.
- o There has not been any study which has focused on cross-country political perspective influenced the writing on any SEZ policy.

Research questions

This study attempts to establish the connection between the design of national SEZ Acts and other specific regulations concerning the regulatory framework of SEZs and the policy economic outcomes. Specific research questions must be addressed in order to fill the gap in the academic literature. The very first question is to gain a better understanding of which key variables or items characterise the most the SEZ Act within BRICS. In order words, the elements that are mostly taken into account by policy-makers when writing the legal framework of SEZs.

The second research question is addressed to explore the range of constructs that influence the most the BRICS regulatory framework of SEZs. These concepts or constructs are much wider than simple variables which only defines a certain idea. The identification of such influenced constructs will give a broader understanding of SEZ design.

The final goal is to determine to which extent the formulated constructs explain the resulted policy outcomes obtained as a result of SEZ policies (e.g. export growth, employment rate and FDI inflows) in the context of BRICS. In the end, it will be possible to provide advice to policy-makers about which designation criteria is giving more successful macroeconomic outcomes.

Scope and Limitations

This paper provides an overview of the critical factors influencing the regulatory framework of SEZs linked to policy economic outcomes within the context BRICS. For this purpose, SEZ Acts within these five (5) countries are explored, as well as additional enactments promulgated years after in order to clarify or change some aspects of the policy. The next **Table 6** shows the list of enactments taken into account in the dataset.

Table 6: Enactments of Special Economic Zones of BRICS

Year	cod_law	Comments
1990s	in_0	EPZ Regime
2000	in_1	First modifications towards SEZ program
2005	in_2	SEZ Act 2005
2013	in_3	Amendment with modifications
1980	ch_1	Guangdong Provisions
2000	ch_2	Law on Legislation (change to decentralize)
1988	br_1	Decree-Law nº 2.452
2007	br_2	The Brazilian EPZ Regime
2005	rus_1	SEZ Act 2005
1993	sthaf_1	Manufacturing Development Act
2000	sthaf_2	Industrial Development Program
2014	sthaf_3	SEZ Act 2014

Source: self-created

While undertaking this research, the following limitations are anticipated:

- Data availability only in English, and spontaneously in Spanish and Portuguese
- The study is based on BRICS, which are developing countries that are considerably growing faster and are highlighted from the rest of the countries.
- The knowledge is limited on carrying out exploratory studies with polytomous variables.

Chapter 4. Methodology

This chapter introduces the research framework, in which research methods for this study will be explained and, in the end, the empirical model will be developed. Using the review of the new DESTA dataset and other composite indicators methodology such Economic Freedom, LPI or Global Competitiveness, the most ambitious attempt at measuring the design of SEZ Acts at a variable-level will be undertaken. Following the guidelines of DESTA, this study attempts to build a brand new dataset which comprises almost 60 per cent of the worldwide SEZs intending to build multi-variable additive constructs (MVAC) and compare them with the most common policy outcomes.

Research proposal

With the surge of an international trade scenario, SEZs are seen as one of the policy instruments to boost exports, liberalize the country and achieve far-reaching macroeconomic outcomes. It is believed that the number of countries that have switched from import substitution to an export-promotion policy has raised extremely: there were over 79 SEZs across 29 economies in 1975, whereas in 2018, 5,400 SEZs were located across 147 countries (UNCTAD, 2019).

The existing theoretical proponents of SEZs have offered various explanations for the rationale, the success factors and outstanding results of the SEZ policies. However, both three prevailing historical approaches do not seem to finally find a pattern on policy design due to the heterogeneity of zones.

Apart from the theoretical studies, there are also qualitative and quantitative studies that focus primarily on case studies and comparative analysis. In this case, several researchers (e.g. Castilhos, 2016; Rahoof Tk & Arul, 2016; Sorokina, 2014) have based their studies on a specific part of the legal framework (such as tax incentives or establishment) giving an example of a country or zone in particular. Besides, other scholars (e.g. Aggarwal, Hoppe, & Walkenhorst, 2015; Le Roux & Schoeman, 2016) have turned their attention to comparative analysis in which they show the different controversies in the SEZ Acts. Finally, quantitative modelling studies (Herlevi, 2016; Lu, Wang, & Zhu, 2015; Zhukovskaya et al., 2016) have been used to confirm the effects of the policy in the derived outcomes by using regression, night-time lights data, cross-sectional analyses, etc.

Despite the extensive popularity of SEZs as trade policy, there is little evidence on the actual design of zone policy, which means the analytic research of the legal framework of SEZs. This is the starting point of the present research. The limited attention paid to differences in the design of trade institutions is problematic given that SEZs vary in terms of macroeconomic context,

national goals and strategy and institutional impediments of their establishing country. To our knowledge, the notable exceptions from this rule are the works of Aggarwal (2015), Fenwick (1984) and the 2018' report of the Asian Development Bank regarding the strategic framework for SEZs in Kazakhstan which attempts to compare the components of the legal framework with the policy outcomes. Nonetheless, there is no such study that compares the design of the elements that make up the regulatory framework by creating multi-variable indexes.

Given the first attempt at collecting systematic data on the design of trade agreements by DESTA to evaluate PTAs, a broad number of similarities have found compared to SEZs: (1) both are complex trade policies that boost exports by diminishing trade tariffs, (2) which are widely heterogeneity as there are many decisive-make elements in the policy, (3) both policies have a great impact on trade-generated benefits.

This study is, therefore, focused on revising first the SEZ policy acts to build a new systematic dataset as the first step to build a completely new approach from the viewpoint of the policy design of SEZs. The second step will be the creation of multi-variable additive constructs (MVAC) that include items that are theoretically related to the index concept. MVAC will allow analysing the content of the legal framework and the policy macroeconomic outcomes resulted from it. This methodology strategy has been used to evaluate the design Preferential Trade Agreements (PTA) from DESTA and other economic indicators such us Logistics Performance Index, Economic Freedom or Global Competitiveness.

This report is specifically addressed to the BRICS group of countries (Brazil, Russian Federation, India, People's Republic of China and South Africa). This gives the chance to bring out some conclusions about the writing of the policy acts and which are the key elements that differ from each of them.

Research protocol

A total amount of 3.067 SEZs comprised within BRICS' countries have been identified, which account for almost 60 per cent of the worldwide SEZs in 2019. The share of these preferential trade-based areas in China, India, Russian Federation, Brazil and South Africa is clearly a different component from any other group of middle-income economies. For purposes of this research, the SEZ Acts from each BRICS' countries have been identified, which are signed in different years and include the preferential treatment and special conditions regarding the operations of SEZs. The regulations are established by the central government of each country. The list of SEZ Acts, then, have been found on the websites of the governments in question. The total number of signed SEZ Acts is five, plus specific regulations and modifications throughout the time period for the five countries covered by the present study.

This research uses empirical strategy that investigates the comparison of policy outcomes with the MVACs as well as several recommendations for policy-makers and the limits in which future scholars may address the further research. Three phases of study are used to fulfil the research aim and objectives. The study employs SEZ Acts and other specific regulations as primary resources to identify the components of the design of SEZs (Phase 1). MVACs will be built by involving a set of variables under the same concept (Phase 2). Finally, an econometric model will be estimated with the purpose of analysing the relationship between those constructs with policy outcomes (Phase 3). Once the results are obtained, a comparison in a country-level will be undertaken in order to find more specific conclusions (Phase 4).

This methodology has been chosen to:

- **Gain** a better understanding of how SEZ Acts contribute to policy success and which are the main drivers of such success.
- **Give** an explanation about the complexities of writing SEZ Acts in comparison with the policy outcomes, which may not be accurately done through a qualitative survey of SEZ Acts in selected countries.
- **Link** policy failures / success to relevant strategies, functionalities of the SEZ Act.

Research structure

The following figure explains the structure of the present study in order to answer the stated research questions:

Figure 11: Methodology structure
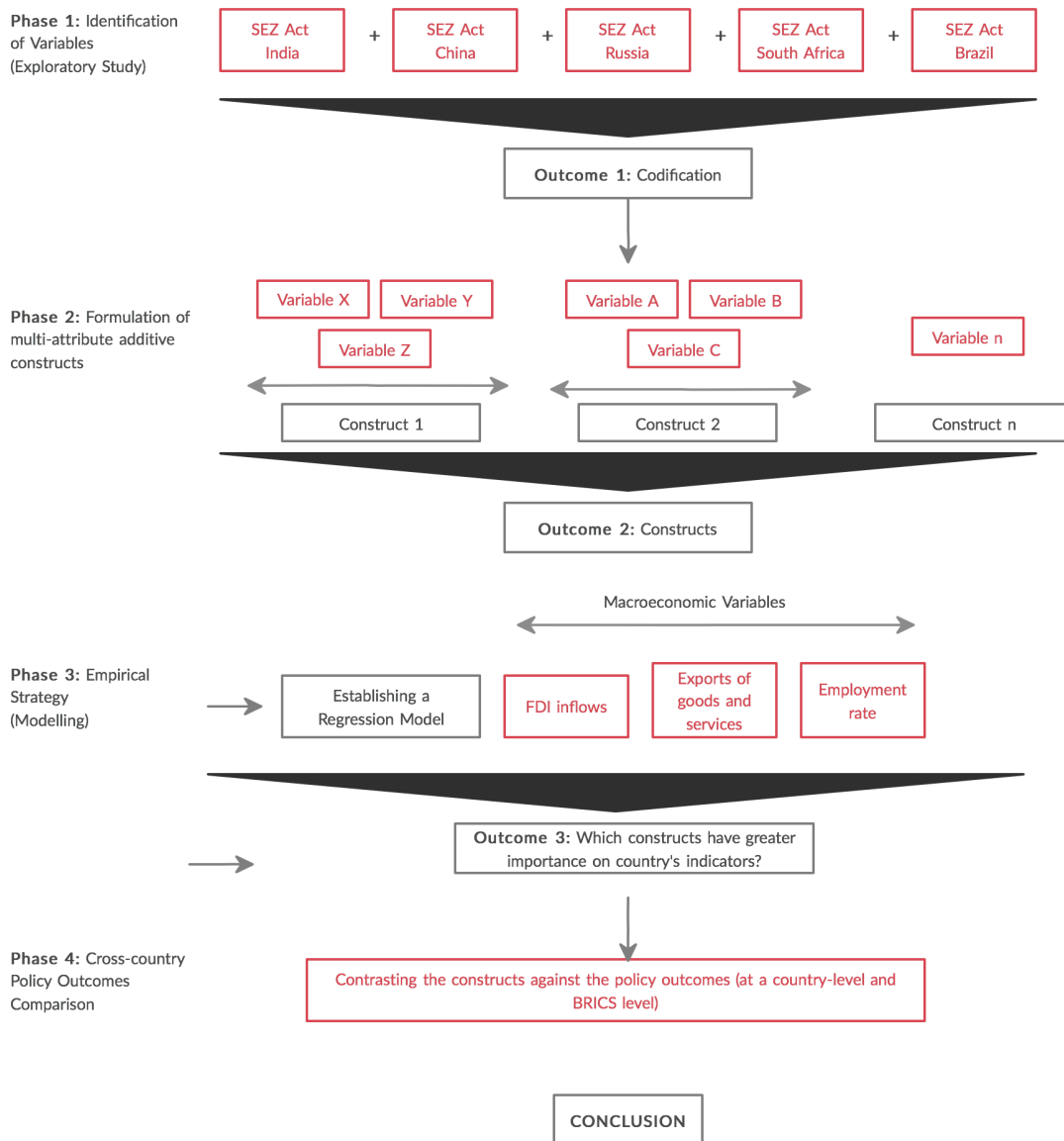
Source: self-created

Phase 1: Identification of the variables

This first phase presents the identification of variables by analysing the components of the design of SEZ Acts and additional laws for the establishment of SEZs in selected countries. A total number of 21 broad variables have been identified. The identification has been in line with the main elements of the regulatory framework of SEZs noted by UNCTAD (2019): trade facilitation, investment promotion, entry liberalization, preferential land access, tax incentives and specific rights and obligations of zone users. Then, there is a need for classifying, categorising and identifying the elements and findings from the Acts. The manner in which data is collected is by creating charts by country and factors to be analysed.

Each variable has been coded to distinguish the different variants of policy decision-making, meaning that there are now 105 new data points to analyse (Appendix 1). The coding has been carried out manually with the purpose of getting a final dataset. The resulting dataset (**Appendix 2**) provides the most ambitious attempt at measuring the design of SEZ Acts in terms of the policy outcomes and success examples. In the following study, a new potential approach towards the regulatory framework of the SEZs will be undertaken.

The identification of variables on the legal framework of SEZ not only has allowed identifying the large number of variables which the regulatory bodies must take into account during the elaboration of such acts, but have also permitted to classify the countries according to policymaking. At the end of this phase, a complete analysis of the key variables that are taken into account when writing the SEZ Act by policy-makers will be available.

Phase 2: Formulation of multi-variable additive constructs

The purpose of this second phase is to establish MVACs, which are composite indicators based on the variables found in Phase 1. The new DESTA dataset introduced in 2014 by Dür (2014) used the involvement of variables to determine MVACs which define a specific concept of the Agreement. The process of constructing composite indicators, in this study, can follow the idea of putting together variables which can theoretically explain a wider concept or principle.

The constructs here measure the degree of policy decision-making present in three major areas: [1] enclave model, [2] institutional quality and [3] flexibility in trade openness. Within the three areas, there are 14 variable components from Phase 1 taken into account[18].

Chapter 5 gives full complete information about each construct and justify the variables which theoretically compose each of them.

---

[18] Appendix 4 shows the table with the variables that compose each construct.

Phase 3: Empirical Strategy

Once the MVACs are created, the last step aims to determine an empirical model in which macroeconomic outcomes will be compared to the different policy attributes in the shape of constructs of the selected countries. Regarding the literature review on most common policy objectives, FDI inflows, exports and employment will be selected to carry out the third phase of this study. FDI inflows data will be extracted from UNCTAD, employment from OECD and exports from the World Bank. The expected results are to examine the MVAC that influence the most the BRICS regulatory framework, and therefore, to which extent they explain the resulted policy outcomes.

The analysis covers the design of SEZ Acts and other specific regulations signed between 1991 and 2018. Formally, the present study provides an analysis with multi-variable regression analysis (MVRA) in order to determine whether the macroeconomic outcomes are significantly influenced by the created constructs.

A MVRA examines whether a specific amount of independent variables can predict or, at least, explain one dependent variable. To our knowledge, no previous research on SEZs have considered using MVRA as a kind of analysis to give some answers to our hypothesis related to the design of SEZs.

To be more specific, this regression analysis will consider multifactorial categories as more than one factor apply for this model. However, to express the qualitative variables in a linear model, dummy variables must be formed. This way will allow to take into account each factor level in the model.

Chapter 5. Empirical strategy

The next chapter includes the empirical strategy previously explained in the methodology process. Hereby, the identification of variables will be described according to the main zone designation criteria proposed by the literature review. Furthermore, the MVACs will be formulated and justified. Finally, the construction of the regression model will be proposed. The present empirical strategy means to present some challenges. First, it may be argued that this is the first time an analysis on the design of SEZs is carried out with a complete new dataset. And secondly, there are way more theoretical concepts than ours that can be studied in further research beyond our MVACs.

Phase 1 – Variable identification and codification

With a complete literature review on the field of zone designation criteria, the UNCTAD' report (2019) presented 6 main elements that must be considered in the legal and regulatory framework of SEZs: (1) trade facilitation, (2) investment facilitation, (3) institutional actors and boards, (4) tax incentives, (5) preferential land access and (6) FDI entry rules. In line with this, the systematic review on the SEZ enactments from each selected country has attempted to identify specific variables regarding each general criteria.

Trade facilitation plays a relevant role in the success of SEZs. These variables are related to non-tariff related requirements or benefits for both imports and exports. For the selected countries, there have been identified the following variables: infrastructure (*sez_infr*), zone ownership (*sez_zone_own*), non-fiscal incentives (*sez_nfisc_pack*), one-stop shop (*sez_one_shop*).

Investment facilitation' items deal with the promotion and facilitation of investment through additional enactments or permissions. In this case, variables such as labour laws (*sez_labour*), environmental laws (*sez_envir*) and WTO compliance (*sez_wto*) have been selected.

The core regulatory framework of SEZs also includes the **specific institutional actors and boards**. Therefore, a broad range of variables has been identified: private entities allowance (*sez_priv*), PPP allowance (*sez_ppp*), definition of the rights and duties (*sez_rights_duties*), zone authority de(centralization) (*sez_zone_auth*), autonomy of the governing body (*sez_gov_bod*).

It is said that subsidies are powerful tools to attract investors for the establishment and development of their businesses within SEZs. The variable of **tax incentives** includes whether the SEZ Act contains a fiscal-incentive package (*sez_fisc_pack*) and the duration of the incentives (*sez_dur_pack*).

Real estate laws provide the general rules on access to land by foreigners (*sez_zone_own*) additional rules regarding land regulation, accessibility (*sez_land).* Moreover, the government might provide a specific geographical location in a strategic place (*sez_zone_loc*).

FDI entry rules determine to which extent foreign companies face investment restrictions and backward linkages with the host economy. In this case, SEZ regulations may contain the industrial sector (*sez_ind_sect*) to fulfil the zone designation criteria according to economic needs. Furthermore, the requirement of the business activities licenses for running operations (*sez_bus_act*). Finally, the agreement may also include the encouragement of the host government to use domestic resources (*sez_back_link*).

The following **Table 7** provides a basic summary of the 20 key variables identified during the exploratory study regarding the 6 main criteria on the regulatory framework. Each variable has been coded in regards to the range of options presented in decision-making (**Appendix 1**).

Table 7: Classification of variables

CRITERIA	KEY VARIABLES	
Trade facilitation	Infrastructure One-Stop Shop	Domestic sales allowance Non-fiscal incentives
Investment facilitation	Labour laws WTO compliance	Environmental laws
Institutional actors and boards	Private entities allowance PPP allowance Definition of rights and duties	Autonomy of the governing body Zone Authority De(centralization)
Tax incentives	Fiscal incentives package	Duration of the incentives package
Preferential land access	Zone Location Zone ownership	Land Accessibility
Entry liberalization	Business Activities License Backward linkages	Industrial Sector

Source: self-created

Conclusions Phase 1: Descriptive analysis of dataset

We have been able to find full texts for all the SEZ policy from China, India, Russian Federation, Brazil and South Africa plus additional regulations that update the old ones from the period 1991-2018. Some of the countries such as India and South Africa have changed the legal framework of SEZs as a result of evolving. On the one hand, India has softly changed some parts of the legislation every year. However, in the present study, only three modifications have been identified in accordance with our concerning variables. On the other hand, South Africa has opted to different types of zones, from Manufacturing Development Zones to Industrial Development Zones and Special Economic Zones.

The rest of the countries have scarcely changed their policy elements. As discussed in earlier chapters, the central government of China enacted the first SEZ policy regime with basic provisions. Then local, provincial and municipal governments have regulated the most concerning parts of the policy. As of Russian Federation and Brazil, their laws have remained steady during all these years due to lack of knowledge for policy-makers.

The resulting dataset reveals that SEZs differ considerably in terms of their contents. The variables confirm that all of the agreements (100%) have defined that business license is required for running operations in SEZs. For all countries, this license is due to a specific time. This is commonly justified by the evolutionary dynamics of SEZs that are meant to change due to the special requirements of the society in a particular moment. However, when it comes to defining the zone-designated industrial sector, there is heterogeneity on what policy-makers have decided. While China and India have not imposed any sector-specific restrictions, Russia, Brazil and South Africa have considered specific sectors to be promoted or that they are in line with the national competitive advantage.

Regarding the connectivity with the host economy, only 40% of the countries have encouraged to use domestic resources to upgrade knowledge and technology skills. The domestic sales are permitted in 80% of the countries, but Brazil only in a certain share, due to EPZ Regime, which restricts the domestic sales allowance. Also, 100% does not provide any restriction for foreign entities to set up. Additionally, a specific geographical location for zone development programs is provided in 100% of the countries. None of them offers full freedom to applicants to choose the geographical location to carry out economic activity.

Additional regulations in the field of labour and environment are completely inexistent. What is more, India did not even include any element related to labour. It was decreed that labour laws are excluded from the SEZ Act, beneficial rules in this field do not apply to such a policy. Additional regulations in the fields of labour and environment completely inexistent with the exception of India that elaborated an addition labour law in 2005. However, any of them have provided more relaxed labour and environmental legislation conditions.

By the time SEZ Acts in BRICS were emitted, the environment was not taken into consideration as it was not a matter of issue. Land accessibility rules are also convenient to give investors a plus. However, only South Africa and Russia (40%) have additionally determined land access rules.

In terms of the incentives package, the 100% of SEZ Acts contain a fiscal-incentive package for SEZ-based firms. However, only China, India and Russia (60%) have provided non-fiscal incentives to motivate trade facilitation. The temporary limitation of the incentives package was mentioned in 80% of the Acts, leaving South Africa apart. Finally, it was only India that explicitly mentioned in 2000 that SEZs must be WTO-compliant.

For those key variables included in the institutional framework, the 5 countries decided not to involve private parties in the Boards of Directors of Zones. All of them are run by public entities (such as the central/regional/local government). However, public-private partnerships have been taken into account by the Russian Federation. In terms of the autonomy of the governing bodies, China has only included this key element in the SEZ Act. The rest of the countries the governing bodies are extremely linked to the government. The variable that specifies the degree of decentralization of SEZ authorities has detected that only China is decentralizing to local, municipal or regional administrations. Finally, 80% of the SEZ Acts contain the definition of rights and duties of the different actors and boards involved in SEZ programs.

Phase 2 – Formulation of multi-variable additive constructs (MVAC)

For the formulation of MVACs, we rely on our brand new dataset on the design of 5-country SEZ policies. Due to the identification of variables by following the main criteria presented by UNCTAD and the extensive qualitative and quantitative literature review on the dynamics of SEZs, we have created MVACs to measure 3 different theoretical concepts. The constructs here measure the degree of policy decision-making presented in three major areas. For each construct, there is an hypothesis created to be checked during the empirical model. Within the three areas, there are 15 variable components from Phase 1 taken into account:

[1] *enclave model*,

[2] *institutional quality* and

[3] *flexibility in trade openness*.

In the first place, the enclave model construct is measured by 5 variables that are theoretically related to the concept commonly argued by scholars supporting the orthodox theory. The design of such SEZs had no interaction with the domestic economy either backward or forward linkages. Therefore, commodities are mostly exported in a low or inexistent percentage for domestic consumption. The geographical location is primarily set in international routes or nearby ports or airports. The industrial sector in such zones is extremely sector-specific due to economic needs or national competitive advantage. In most of the cases, the industrial sector is based on trade, logistics or manufacturing-related activities. In other words, the purpose of free zones is to liberalize specific activities in a specific zone location. The final characteristic of this model is that the zone ownership shows a high percentage of foreign-owned entities.

In below **Table 8**, the different variables that make up the first indicator are shown, with the values that can be given according to the policy-decision making of a particular year. The right column shows the specific value that the SEZ Act must accomplish in order to get the enclave format.

Table 8: Construct 1. Enclave Model

	Value	**Enclave?**
Provision of Industrial Sector?	0/2	1
Provision of Business Activities License?	0/2	1
Provision of Domestic Sales Allowance?	0/3	0, 2
Provision of Zone Location?	0/2	1
Provision of Zone Ownership?	0/2	1

Source: self-created

Each country will be categorised in accordance with the following coding, so that the degree of compliance with this construct can be detected. The potential variables that are going to make decide whether it is or it is not on the way of an enclave-format SEZ are: (1) *sez_ind_sect*, (2) *sez_dom_sales*, (3) *sez_zone_own*.

0	The policy does NOT accomplish an enclave format
1	The policy DOES accomplish an enclave format
2	Half-way to enclave format

Hypothesis 1: the enclave model does not involve economic development for BRICS in terms of employment, FDI inflows and exports.

The second construct is based on the institutional quality of SEZs considering 5 more variables from the dataset. There has been much debate over the effectiveness of governing bodies when private entities come to participate in them. Following the leads of the political economy of Moberg (2014), the involvement of private entities in the governing bodies can lead to more successful results as public bodies are often corrupt and rent-seeking for their benefit. Throughout the last decades, some host governments have happened to consider public-private partnerships or even only private bodies as zone operators or managers. Previous **Figure 6** clearly shows the wide amount of stakeholders within SEZ development. Much of the literature has proposed that the governing bodies must be autonomous from owning, developing or operating zones, as it otherwise would not be impartiality. In line with this, the SEZ enactments should consider to include the rights and responsibilities, as it promotes confusion given the number of actors involved in the governing bodies.

Table 9: Construct 2. Institutional quality

	Value	Quality?
Provision of Private Entities Allowance in the Board of Directors?	0/2	1
Provision of Private-Private Partnership Allowance on Zone Programs?	0/2	1
Provision of Autonomy of the Governing Body?	0/2	1
Provision of Rights and Duties of Actors and Boards?	0/2	1
Provision of Zone Authority (de)centralization?	0/2	1

Source: self-created

Each country will be categorised in accordance with the following coding, so that the degree of compliance with this construct can be detected. If the following variables are positively valued, the country will be considered half-way towards institutional quality: *sez_gov_bod*, *sez_rights_duties* and *sez_zone_auth*.

0	The policy is NOT under institutional quality
1	The policy IS under institutional quality
2	Half-way towards institutional quality

Hypothesis 2: *The better institutional quality, established by the most effective governing bodies and validated rights and duties, can positively enhance the resulted policy outcomes of SEZs.*

The third and last MVAC is dealing with the flexibility in trade openness, meaning to which extent the host government is promoting trade liberalization through additional laws. This last construct is developed by using 5 variables. For instance, as a matter of fact, the duration of the incentives package is a key factor in order for attract foreign-owned entities to establish in such zones. Plus, liberal additional laws such as labour and environmental regulations may be of interest by a certain targeted companies. Finally, during the last decades SEZ development, some governments promoted export subsidies such as export share requirements, which required a minimum amount of exports in order for companies to get the permission and fiscal incentives. Therefore, SEZs, like other commercial tools, must comply with the WTO regulations by not adding any permits that are denied by such organization.

Table 10: Construct 3. Flexibility in trade openness

	Value	Flexibility?
Provision of Duration of Incentives Package?	0/2	2
Provision of WTO Rules Compliance?	0/2	0, 2
Provision of Labour Laws?	0/2	2
Provision of Environmental Laws?	0/2	2
Provision of Land Accessibility?	0/2	2

Each country will be categorised in accordance with the following coding, so that the degree of compliance with this construct can be detected. The following variables potentially selected in order to consider whether the country is half-way towards flexibility or not flexible at all: *sez_labour*, *sez_land*, *sez_envir*.

0	The policy is NOT flexible on trade openness
1	The policy IS flexible on trade openness
2	Half-way towards flexibility to trade openness

Hypothesis 3: the more flexibility in trade liberalization, the better results in policy outcomes.

Conclusions Phase 2: MVACs

With general overview of the dynamics of SEZs in terms of the formulated MVACs, we can see the majority of countries has evolved towards a more comprehensive type of zone. This means that SEZs are integrated into the domestic economy and intensifies backward linkages in terms of employment and technology transfer. Russia bets from the very beginning on an enclave-format zones which confirms that it does not learn from the worldwide experience or evolutionary dynamics of the economy. South Africa model has been an enclave-based format forever. However, the most recent SEZ Act of 2014 tried to build a strategic policy design which looks like China.

Furthermore, institutional quality is barely noticed within the countries on the sample. China was the first and only country accomplishing full requirements of this theoretical concept with the promulgation of decentralization of powers in 2000. The rest of the countries are not even paying attention to involving private entities to zone authorities boards or decentralization. This means that middle-income countries like BRICS are not developed enough to delegate powers to local governments due to political instability or lack of organization.

Finally, flexibility on trade openness has had very disappointing results. Due to the huge extended literature, giving notions that developing countries are more likely to promulgate more liberal and friendlier labour and environmental rules, our resulting dataset has showed the opposite. BRICS have hardly paid attention to additional rules concerning labour laws and environment. Nonetheless, China and India are the only examples which, at least, make references in the SEZ Act about these two conditions. China for the whole period, and India with additional amendments in 2013.

Phase 3 – Empirical model

As discussed earlier, this paper attempts to build a brand new theoretical framework from the creation of a new dataset based on the SEZ enactments of BRICS. This group of countries accounts for almost 60% of the SEZs worldwide. By analysing the policy-making of these countries will allow making some specific recommendations to policy-makers and public parties in the field of the elements contained in SEZ enactments.

Before proceeding to present the empirical model, it is worth to explain that, in the present study, there is no exploratory factor analysis to measure the weight of the variables in each construct. This part is not considered within the objectives of this thesis due to the robustness of the dataset. However, Dür et al. (2013) in one of the papers from DESTA, they create a factor analysis to determine the correlation and weights that each element should get in a measure of their construct. We, therefore, build the MVACs according to theoretical reasons. Future research on this topic will have to look into the weight and significative variables that positively correlate to each construct.

Therefore, we focus on finding an empirical model that can describe which of the constructs and variables can widely explain the policy outcomes of the SEZ policy.

The design of a SEZ does vary across both selected countries and time in our dataset, meaning that the number of observations is correlated to the period of time in the study (1991-2018) and the number of countries (5 in total). In **Appendix 2**, the complete dataset is attached.

Estimation approach

The most suitable empirical model for such a study is a multiple-variable regression analysis (MVRA), which attempts to determine:

- The independent variables that can be associated to an dependent one.
- To which extent they are associated
- If the dependent variable can be predicted through a regression model

In this case, the regression model is indicated through the following equation (1):

$$y_i = \beta_0 + \beta_1 * x_1 + \beta_2 * x_{2i} + \cdots + \beta_k * x_{ki} + \epsilon_i \tag{1}$$

We estimate three separate regressions models that explain the three policy outcomes by adding together the MVACs in the same formula.

Formally, our estimation here relies on three basic equations. Specifically, we estimate for a country i surveyed in year j given a specific SEZ policy t:

$$FDI_{ijt} = \beta_0 + \beta_1 ENCLAVE_{ijt} + \beta_2 QUALITY_{itj} + \beta_3 FLEX_{itj} + \theta_t + \epsilon_i \tag{2}$$

$$EXP_{ijt} = \beta_0 + \beta_1 ENCLAVE_{ijt} + \beta_2 QUALITY_{itj} + \beta_3 FLEX_{itj} + \theta_t + \epsilon_i \tag{3}$$

$$EMPLOY_{ijt} = \beta_0 + \beta_1 ENCLAVE_{ijt} + \beta_2 QUALITY_{itj} + \beta_3 FLEX_{itj} + \theta_t + \epsilon_i \tag{4}$$

Where FDI_i, EXP_i and $EMPLOY_i$ are the three policy outcomes and macroeconomic data, $ENCLAVE_{ijt}$, $QUALITY_{itj}$ and $FLEX_{itj}$ reflect the MVACs. Each of them will be coded as dummy variables (this process will be described in the next subchapter). Finally, θs are a set of SEZ policy changes dummy variables. The latest dummy variables also consider the year and country within the same codification. Also, these control and give us deeply disaggregation of the model ensuring a better analysis at a country-level.

Control Variables

Because our dataset includes polytomous measures of the design of SEZs, we need to make some changes on the codification and establish dummy variables with only two values (0, 1). Thus, to introduce the information of the qualitative variables, there will be used as many dummy variables as the total number of categories minus one in order to prevent from falling into the dummy variable trap. This issue will not allow us to carry on with the our model strategy.

Therefore, for each MVAC, two new dummy variables will be added in order to differentiate each category. Even though there are three categories for each MVAC, it is enough by making up two dummy variables. The countries that are half-way in their policy-making for the mentioned constructs will be assigned a 0 in each dummy. The following chart gives an example of codification for each MVACs.

Code		Dummy_No	Dummy_Yes
0	*No*	1	0
1	*Yes*	0	1
2	*Half-way*	0	0

However, the "*type_enclave*" will be the only recoded variable into two dummy variables regarding the previous table as flexibility and institutional quality take two values out of expected three in our dataset. Therefore, these two must be also recoded with 0, 1 values to convert into dichotomous variables.

Hereby, the recodification of variables depending on the MVAC:

Code	Enclave	D_flex	D_quality
0	no_enclave	0	0
1	yes_enclave	No data	No data
2	-	1	1

Furthermore, in our estimation, we use *cod_law* as a control variable. This variable will turn into as many dummy variables as different enactments from each country. Below, we see the conversion of *cod_law* into control dummy variables. When that enactment is prevails on the country and proper time, value is 1 or 0, instead. This serves three purposes: (1) when adding cod_law to the model, they control the evolution of key items of the SEZ policy, so it denotes the evolution of the policies among countries; (2) this variable allows to proceed to cross-country analysis as it also denotes the country on it; (3) it gives the notion of the evolutionary dynamics of SEZ policy framework. Thanks to this control variable, we will allow for answering our last two research questions.

cod_law	control variable
br_1	D_br1
br_2	D_br2
ch_1	D_ch1
ch_2	D_ch2
in_0	D_in0
in_1	D_in1
in_2	D_in2
in_3	D_in3
rus_1	D_rus1
sthaf_1	D_sthaf1
sthaf_2	D_sthaf2
sthaf_3	D_sthaf3

Chapter 6. Results

This chapter includes, first, the descriptive statistics regarding our dataset to shed some light on the resulting variables. Then, it examines the regression approach following the estimation strategy from the previous chapter. Finally, as our identification strategy aims to examine the relationship between the three MVACs and policy outcomes in a general-level and country-level, the results will be presented separately to make sure conclusions are made wisely.

Descriptive statistics

We examined the evolution of policy-making for all five-selected countries throughout the time series 1991-2018, approximately. While the dataset has been processed manually, the macroeconomic data has been extracted from the World Bank Data. For each country, a table presents detailed information on the entire dataset as well as the descriptive statistics of all variables used in the study. The three macroeconomic indicators are represented with logarithm as a proxy. Hereby, a group-level analysis will be firstly described and then country-level:

BRICS-level

The most noticeable and relevant fact is that newest SEZ enactments (e.g. South Africa, 2014 or Russian Federation, 2005) should have learnt from other countries' experience and figure out the best policy format for their own country. Instead, they present vast improvement on policy outcomes. First, Russian Federation has opted for its own version of SEZ policy enactments. However, according to the literature review, the investment climate is still not favourable for FOEs, the political instability leads to poor quality of institutions and the lack of proper legislation has evoked to a total failure. Second, South Africa does not seem to understand its own macroeconomic needs. The format of the policy has clearly been a copy of China's. Therefore, the objectives of the policy do not appear to be met.

Furthermore, the dataset provides some notions that countries opting for enclave-related zones did not have much impact on the policy outcomes. Concerning comprehensive-based zones, such as India and China, policymakers are willing to offer more advantageous measures and friendlier regulations. In the first place, to promote local businesses as targeted industries apart from foreign entities. Second of all, to encourage backward linkages with domestic firms as part of subcontracting, employment or sales allowance. Third, targeted sectors are going beyond the comparative advantage of each country.

Next, the most highlighted box plot figures show some of the resulting policy outcomes regarding the policy making for each MVAC:

Figure 12 and 13 show some notions of the consequences of policy-making when it comes to policy outcomes. The first picture suggest that the more flexibility in trade openness within BRICS, the more national workplaces. Contrary to our expectations, the second picture might explain that enclave models does not encourage exports as interpreted in the existing literature.

Figure 12: Boxplot *log_exports* by *type_enclave*
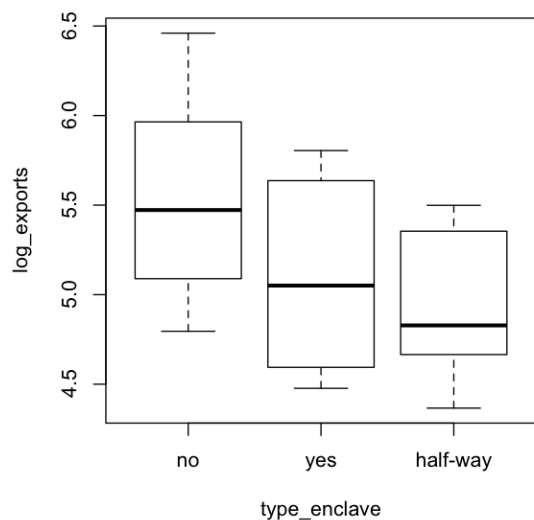
Figure 13: Boxplot *log_employment* by *type_flex*

Source: self-created from dataset
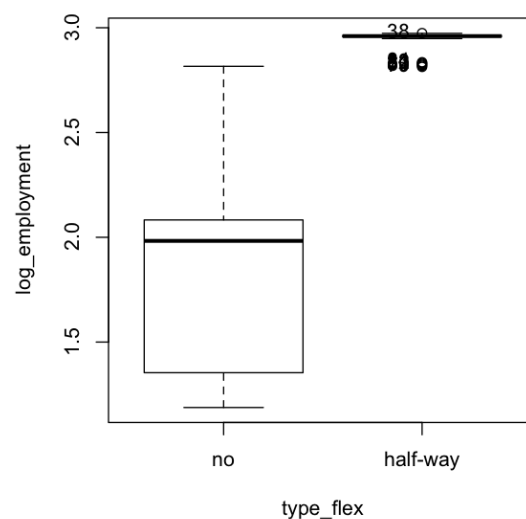
Source: self-created from dataset

In **Appendix 5[19]**, there are evolutionary dynamics of policy outcomes by SEZ Acts and further updates throughout the time series (1991-2018). These figures suggest that employment has scarcely varied despite the updates on policy making across countries. However, exports have experienced significant growth regardless of the policy enactment. Although FDI inflows indicator might express confusion due to ups and downs throughout the whole period, the trend is upward.

---

[19] For further conclusions regarding the evolution of policy outcomes go to Appendix 5.

Below, a more detailed analysis of policy changes as well as statistical descriptive data at a country-level is presented:

Brazil

Brazil formally formulated the first EPZ Act with the 2007' EPZ Regime. The policy has remained unchanged for the last 30 years, meaning that perhaps the Brazilian Regime is totally old-fashioned. Although Brazil is still the only one which is EPZ-oriented, in this dataset, it is coded as a half-way enclave model, because it could encourage interaction with the domestic economy. While employment effects have slightly increased, the rise on FDI inflows and exports is more significant. In all, the change in the EPZ policy has not had significant changes in the economy. **Table 11** shows that FDI and exports have a higher standard deviation in regards to the mean (0,57 and 0,32, respectively). However, employment has got almost the same values throughout the sample.

Table 11: Descriptive statistics of Brazil

	N	mean	sd	min	max
log_exports	28	5,075	0,3212	4,554	5,498
log_employment	28	2,030	0,0429	1,949	2,083
log_fdi	28	4,351	0,5717	3,043	5,010
D_flex	28	0	0	0	0
D_quality	28	0	0	0	0
no_enclave	28	0	0	0	0
yes_enclave	28	0	0	0	0

Source: self-created from dataset

China

The sample on China proved that the enactment of the Provisions of Guangdong could be followed by potential good results on both exports and FDI inflows within 10 years (1991-2000). The Chinese model has been characterized by all-inclusive SEZ format in the domestic economy and giving some relaxed regulations in all the period, meaning full trade flexibility. By the change of legislation in 2000, the decentralization of powers to municipal, regional and local governments would improve the quality of the institutional policy framework. China has experienced the most noticeable changes in FDI and exports indicators in the whole period. **Table 12** shows *log_exports* and *log_fdi* presents the highest level among the rest of the countries. However, it also shows the Chinese employment values are barely growing, therefore, the standard deviation is perfectly flat.

Table 12: Descriptive statistics of China

	N	mean	sd	min	max
log_exports	28	5,756	0,573	4,843	6,460
log_employment	28	2,962	0,006	2,948	2,974
log_fdi	28	4,902	0,453	3,640	5,463
D_flex	28	1	0	1	1
D_quality	28	0,678	0,4755	0	1
no_enclave	28	1	0	1	1
yes_enclave	28	0	0	0	0

Source: self-created

India

India shifted from a EPZ regime, which did not get ambitious macroeconomic results as expected, to an export-based policy. The first noticeable changes was the enclave model not being anymore appreciable with the first modifications in 2000. Not until 2012, almost nothing in the structure changed. The government gave some notions of labour and environment in the new amendments. **Table 13** is a summary of the descriptive statistics of India. The results reveal that *log_fdi* has a high-rate standard deviation respect the general mean, meaning that Indian FDI inflows are the most differentiated from the rest of the countries. *Log_employment* also shows here the almost inexistent change.

Table 13: Descriptive statistics of India

	N	mean	sd	min	max
log_exports	28	5,121	0,485	4,367	5,747
log_employment	28	2,787	0,038	2,708	2,835
log_fdi	28	3,857	0,749	1,867	4,648
D_flex	28	0,214	0,4179	0	1
D_quality	28	0	0	0	0
no_enclave	28	0,679	0,476	0	1
yes_enclave	28	0	0	0	0

Source: self-created from dataset

Russian Federation

The latest enactment referring to any kind of SEZs was in hands of the Russian Federation dating 2005. Although this country could have reflected the experience from the other countries with already existing SEZ models, it chose enclave-based zones with targeted sectors. It did not pay attention to those elements related to institutional quality and trade flexibility at all. Therefore, macroeconomic results were inexistent, barely appreciable. In **Table 14**, we shed some light on the lower standard deviation for these three indicators compared the rest of the countries. This means that Russia is centred-position among the rest of the countries.

Table 14: Descriptive statistics of the Russian Federation

	N	mean	sd	min	max
log_exports	14	5,677	0,110	5,457	5,805
log_employment	14	1,924	0,001	1,910	1,933
log_fdi	14	4,497	0,318	3,836	4,873
D_flex	14	0	0	0	0
D_quality	14	0	0	0	0
no_enclave	14	0	0	0	0
yes_enclave	14	1	0	1	1

Source: self-created

South Africa

The policy-making in South Africa have completely changed throughout the time period in terms of the enclave format of SEZs. Not until 2014, South African IDZs were conceived as enclaves were no companies but foreign entities could be established to run operations. In this particular case, from 2002 to 2014, the exports raised exponentially. However, with the new SEZ Act in 2014, either exports, FDI inflows and employment stagnated. **Table 15** shows that min-max values are very distinctive, especially for *log_fdi*. It also presents the higher rate on standard deviation, meaning that South African FDI inflows are highly deviated from the mean of the sample.

Table 15: Descriptive statistics of South Africa

	N	mean	sd	min	max
log_exports	26	4,821	0,234	4,477	5,121
log_employment	26	1,280	0,056	1,188	1,370
log_fdi	26	3,281	0,622	1,053	3,995
D_flex	26	0	0	0	0
D_quality	26	0	0	0	0
no_enclave	26	0,192	0,402	0	1
yes_enclave	26	0,808	0,402	0	1

Source: self-created from dataset

Empirical approach

We begin by presenting the determinants of policy outcomes at a general basis (**Table 16**) by using aggregated data from all 5 countries along the established period (1991-2018). Although some of the results go along with the existing literature, some coefficients do not match with what is commonly found and argued in the literature. We take this opportunity to deep down at a country-level to search for empirical evidence throughout our dataset.

Table 16: Determinants of policy outcomes

	Exports	*Employment*	*FDI*
yes_enclave	0.0515	4.77e-13 ***	0.0769
	(1.967)	(-8.124)	(-1.784)
no_enclave	0.0358 *	0.0521	0.6324
	(2.123)	(1.962)	(-0.480)
D_quality	0.000000261 ***	0.6554	0.0060 **
	(5.463)	(0.447)	(2.798)
D_flex	0.3192	7.63e-5 ***	0.0205 *
	(1.000)	(4.099)	(2.348)
R^2	0.4586	0.692	0.6232

Note: Numbers in parentheses are t ratios. * , ** and *** done significance at 1%, 0,1% and 0%, respectively.

Focusing on exports, we find that coefficients of independent variables are positive, but greatly significant only for *D_quality* and *no_enclave*. Institutional quality elements on the SEZ policy enactments are meant to be strongly correlated with the increase of exports. The ease of incorporating public-private partnerships, private entities to zone stakeholders or decentralization of zone authorities can denote major changes in the number of exports. Furthermore, the literature argues that enclaves are geographically-designated locations meant only for foreign entities to be established with the only purpose of exporting commodities. The results show that comprehensive zones are more likely to increase exports. We find this as a paradox and not in line with the literature. However, foreign entities might find more attractive to establish in more comprehensive zones integrated into the domestic economy as they also might be able to fulfil the domestic demand as well as the external market.

Regarding employment effects, two potential variables are significantly correlated with the number of workplaces. First, *D_flex* presents a strong positive correlation which is in line with previous studies. The more relaxed additional laws, the better improvement on national employment rates. Nonetheless, *yes_enclave* is correlated negatively with employment, meaning that enclave models are not meant to give much more workplaces for domestic people.

Finally, FDI inflows have a positive and strong correlation with *D_quality* and *D_flex*. These findings suggest that, with a high-quality institutional framework, there is a strong likelihood to increase the number of foreign entities to invest and establish offshoring activities. Also, additional

laws in labour, land or environment could encourage the promotion of FDI inflows in such countries.

In light of this aggregate-level analysis, few conclusions can be drawn from our hypothesis mentioned in previous chapters. On the one side, Hypothesis 1 gives contrary results than the literature, which turns to be more surprising if we consider that enclave does not promote employment and comprehensive-based SEZs are meant to export more rather than enclave-based ones. However, we need country-level evidence to generalize this statement. Hypothesis 2 and 3 are substantially true. This model states the enhancement of policy outcomes by taking into account more trade flexibility rules and institutional quality in governing bodies.

While aggregate version of this model does not give us proper information about the effectiveness of policy making of each selected country, we add our control variable (*cod_law*) to make an assessment at a country-level. We conducted all analyses separately using the same structure to achieve a greater level of analysis.

The results of the regression about China are presented in **Table 17**. As one can see, China's model does not include the institutional quality MVAC, meaning that it did not have much significance on the estimation. These findings are far less surprising than expected, as, for us, MVACs should have had a greater impact on this country due to advanced decision-making at policy-formulating.

Table 17: Chinese determinants of policy outcomes

	Exports	*Employment*	*FDI*
D_ch1	*0.00354 ***	*0.4613*	*0.6371*
	(-2.976)	*(0.739)*	*(-0.473)*
D_ch2	*0.03356 **	*0.4091*	*0.0849*
	(2.150)	*(0.828)*	*(1.737)*
yes_enclave	*0.04452 **	*5.41e-13 ****	*0.0779*
	(2.031)	*(-8.109)*	*(-1.778)*
no_enclave	*0.03034 **	*0.0526*	*0.6335*
	(2.031)	*(1.958)*	*(-0.478)*
D_flex	*0.00665 ***	*0.0125 **	*0.0423 **
	(2.763)	*(2.538)*	*(2.053)*
R^2	*.4921*	*.6908*	*.31*

Note: Numbers in parentheses are t ratios. * , ** and *** done significance at 1%, 0,1% and 0%, respectively.

It might seem that *D_flex* has a positive and significant correlation with the three policy outcomes for China, especially with exports. These findings suggest that by aggregating open-up trade measures to SEZs may encourage FDI inflows, the creation of workplaces and promotion of exports. China has regulated labour provisions in the SEZ Act and has added an extra amendment for land usage. Apart from that, China did not join WTO until 2000 as the last measure in the nation's opening-up reform to connect the economy to global market. However, before accession, SEZ policy was not meant to be WTO-compliant.

In line with the aggregate-level analysis, *yes_enclave* is negatively significantly correlated with employment which does not encourage the creation of workplaces at all. However, even though China did not promote enclave-based zones, the employment rate in China did not grow at all (see the evolution in **Figure 14** in **Appendix 5**). However, it might seem obvious but *yes_enclave* is significantly positively correlated to exports promotion. This finding suggests that exports may be motivated by enclave zones. In contrast, *no_enclave* is also a positively correlated factor with exports. Given this controversy, our findings should not be over-interpreted.

The factor variables on SEZ policy evolution seem to be only significantly correlated with exports. As one can see, the first enactment on SEZs, coinciding with the Provisions of Guangdong Province, it did not encourage exports as it is negatively correlated. However, opening-up reforms in 2000 could bet on massive good results on exports (**Figure 15** in **Appendix 5**).

All factor variables considered, just Hypothesis 3 is accomplished by the Chinese model. Therefore, future studies will have to address the issue of institutional quality of China from the point of view of SEZ policy design. Even though multiple assessments have confirmed that decentralization of powers is beneficial as regional, local and municipal governments are more likely to accurately assess the zones' needs, there are still no studies about the effectiveness of decentralization from the regulatory point of view. The present study has only taken into account the enactments issued by the central government to give uniformity to the set of countries instead of regional enactments.

Below **Table 18** shows the outcomes of our empirical estimation for Indian SEZs. The results yielded some interesting findings, as one can see that India has changed repeatedly the SEZ policy. At a preliminary basis, this might seem very common as one policy does not find the proper method at first, but after several attempts at policy modification.

Table 18: Indian determinants of policy outcomes

	Exports	*Employment*	*FDI*
D_in0	0.000202 ***	< 2e-16 ***	0.0000000167 ***
	(-3.839)	(10.176)	(-6.072)
D_in1	0.545221	< 2e-16 ***	0.60772
	(-0.607)	(12.474)	(0.515)
D_in2	0.034811 *	< 2e-16 ***	0.00591 **
	(2.136)	(14.087)	(2.805)
D_in3	0.001615 **	0.152	0.5813
	(3.230)	(-1.441)	(0.553)
yes_enclave	0.524710	< 2e-16 ***	0.0000603 ***
	(0.638)	(-10.959)	(-4.166)
no_enclave	0.8229	6.61e-12 ***	0.00210 **
	(-0.224)	(-7.653)	(-3.147)
D_quality	2.9e-10 ***	0.994	0.00266 **
	(6.907)	(-0.008)	(3.071)
D_flex	0.7946	< 2e-16 ***	0.00394 **
	(0.261)	(15.871)	(2.942)
R^2	.5686	.9186	.4952

Note: Numbers in parentheses are t ratios. * , ** and *** done significance at 1%, 0,1% and 0%, respectively.

First, institutional quality is positively significantly correlated with the number of exports and FDI inflows. For India, an improvement on stakeholders management would lead to an increase in both exports and FDI. According to the graphs in **Appendix 5**, India's exports and FDI have been stable in recent years, instead of having an increasing trend. Therefore, it would be interesting whether India could improve the governing board to make exports and FDI increase again.

Second, trade liberalization rules affect positively on the increasing of workplaces in India as well as the number of foreign investors. In 2009, India created for the first time an amendment to the SEZ law, regarding new land provisions. 4 years later, it also established environmental rules within the SEZ Act. According to this model, these two improvements have denoted beneficial for the creation of employment and increase of FDI inflows.

Third, contrary to previous studies, the results of this analysis confirm that enclave-based models do not contribute to either the number of workplaces and foreign investors. These findings are more surprising than the last two if we consider that plenty of authors have been in favour of enclaves being the perfect format for increasing FDI inflows, especially. If we relate it to the structural changes that the SEZ policy had in India, we can see that at the end of the 20th century, it was framed by an EPZ regime. This did not have significant results either in terms of FDI inflows and employment. Nonetheless, *no_enclave* also express negative correlation among FDI and employment. This means that, even though India opted in 2005 for an SEZ-based regime, it did

not have much good resulting policy outcomes. An overall possible interpretation of these findings is that neither of these two zone designation criteria did go well, meaning that it should rethink the format in which it needs to be promoted.

At a policy-level analysis, India had 4 big changes in its SEZ policy. We can see that there is a noticeable evolution towards an effective policy, even though there is still way to go. On the one hand, correlations between *D_in0* and exports and FDI seem negative and statistically significant. However, the newest updates have noted to be in some cases positively significant. On the other hand, employment was very statistically significant in the first enactments, but in the current ones, it is no longer significant.

In conclusion, India does not comply with Hypothesis 1 as either *no_enclave* or *yes_enclave* do not denote positively statistically significance. This hypothesis needs further support for the case of India. Our findings determines that Hypothesis 2 and 3 are positively accomplished. First, institutional quality is beneficial for both exports and FDI inflows. Second, flexibility in trade openness encourages employment and FDI inflows.

The following **Table 19** shows the results given by South Africa. This country has also evolved throughout the time series by several different regulations towards the same concept: SEZs. However, in light of the resulting policy results, South Africa has not achieved anything expected.

Table 19: South African determinants of policy outcomes

	Exports	*Employment*	*FDI*
D_sthaf1	*1.56e-13 ****	*3.34e-15 ****	*1.78e-10 ****
	(-1.1311)	*(-9.082)*	*(-6.999)*
D_sthaf2	*1.64-e9 ****	*4.82e-16 ****	*1.53e-05 ****
	(-6.551)	*(-9.442)*	*(-4.514)*
D_sthaf3	*0.18955*	*< 2e-16 ****	*0.03131 **
	(-0.2119)	*(-15.710)*	*(-2.180)*
yes_enclave	*8.47e-12 ****	*1.50e-6 ****	*0.00792 ***
	(7.598)	*(-5.074)*	*(2.702)*
no_enclave	*0.00288 ***	*< 2e-16 ****	*0.6370*
	(3.045)	*(10.649)*	*(0.473)*
D_quality	*1.29e-9 ****	*0.369*	*0.00102 ***
	(7.064)	*(0.902)*	*(3.371)*
D_flex	*0.4951*	*0.120*	*0.07945*
	(0.684)	*(1.565)*	*(1.769)*
R^2	*.6761*	*.9243*	*.5279*

Note: Numbers in parentheses are t ratios. * , ** and *** done significance at 1%, 0,1% and 0%, respectively.

Of the three MVACs included in the regression, two showed a consistently significant correlation with the SEZ' policy outcomes. First, the enclave format is positively correlated to exports and

FDI, but negatively with employment. Not until 2014, South Africa was framed by an enclave-based regime motivating industrial specific sectors of the economy. Following the illustration in **Appendix 5** about exports, the maximum increase was between 2000 and 2008 with the enactment of IDZs. Contrary to these findings, neither of the three regulations about SEZs have not got positive, but negative statistically correlation with exports. Furthermore, while *yes_enclave* showed a negative correlation with employment, *no_enclave* is positively related to the number of workplaces. This means that employment is motivated by more comprehensive-based zones.

A second MVAC, *D_quality*, confirms that more liberal and highly extended quality institutional framework can help to improve both export promotion and FDI inflows. Hence, these coefficients must be taken into account by the South African government to rebuild the institutional framework.

Speaking of SEZ policy evolution, South Africa has radically changed its policy twice. The first manufacturing-based development policy did not accomplish any of its goals. *D_sthaf1* shows a strong but negative correlation with the three policy outcomes, meaning that some elements had not been considered in formulating this policy. However, the development of alternative laws towards industrial sectors (*D_sthaf2*) and SEZs (*D_sthaf3*) have proved to be insufficiently effective. According to the literature, the SEZ Act in 2014 was rapidly enacted following the leads of the Chinese policy. This is a common mistake of all those economies that decide to implement a policy without following a prior study of the country's structural needs. Even though the policy-making was liberal, it did not get to understand the macroeconomic context of the country and therefore, accomplish the national goals.

As a conclusion, Hypothesis 2 was achieved only for export promotion and FDI inflows as employment did not get significant results. However, the results provide convincing evidence showing that Hypothesis 1 was only consistent with employment. This finding suggest that employment will be boosted when zones are comprehensive models completely integrated in the domestic economy. Lastly, Hypothesis 3 is not achieved at all in South Africa.

Tables 20 and 21 presents our estimation for the determination of policy outcomes for the Brazilian and the Russian Federation cases. We consider a common explanation since these two countries have not experienced such many changes in the SEZ policy over the years. Therefore, evolution has been static and minimal.

At first glance, these two countries are the only ones that currently still have policy elements that characterize an enclave model. Hereby, the results yielded some interesting findings and similar patterns. As in previous countries, the results of these two analyses confirm that *yes_enclave* is negatively correlated with employment. Another similarity between Brazil and Russia is the importance of *D_quality* on exports promotion and FDI inflows, which is also in line with the rest of the countries. Furthermore, *D_flex* is a potential determinant of the number of workplaces in a country. Therefore, relaxed labour laws, land accessibility may increase the employment rate at

82

a country. Finally, both SEZ Acts in Brazil and Russia are potentially correlated with the exports rate and FDI inflows.

There is also a bunch of differences which must be taken into account. While the Brazilian EPZ Regime has a negative correlation with employment, meaning that the policy elements are not oriented towards the creation of workplaces, the Russian Federation attempt has a positively significant correlation with employment.

The Brazilian regimes (*D_br1* and *D_br2*) has a positive and significant correlation with exports and FDI inflows. However, contrary to the previous results, *no_enclave* is also highly correlated with exports promotion and FDI inflows. This fact must have further discussion on future studies as these two arguments are contradictory.

The conclusion for the case of Brazil is that Hypothesis 2 is almost accomplished as has positively enhanced exports and FDI. Besides, Hypothesis 3 is also accomplished by the employment outcome. Therefore, more studies must be undertaken as a Brazil case-study due to the lack of literature on this country.

Table 20: Brazilian determinants of policy outcomes

	Exports	*Employment*	*FDI*
D_br1	*0.065*	*0.000003822 ****	*5.05e-5 ****
	(1.863)	*(-5.674)*	*(4.209)*
D_br2	*0.00000279 ****	*0.000000103 ****	*2.45e-11 ****
	(5.454)	*(-4.851)*	*(7.384)*
yes_enclave	*0.0000262 ****	*2e-12 ****	*0.000653*
	(4.378)	*(-10.392)*	*(3.503)*
no_enclave	*0.000023 ****	*0.00939 ***	*9.63e-05 ****
	(4.410)	*(-2.641)*	*(4.039)*
D_quality	*0.000000012 ****	*0.61364*	*0.001053 ***
	(6.133)	*(0.506)*	*(3.360)*
D_flex	*0.264*	*0.000009238 ****	*0.005647*
	(1.123)	*(4.638)*	*(2.820)*
R^2	*0.5704*	*0.7594*	*0.5247*

Note: Numbers in parentheses are t ratios. * , ** and *** done significance at 1%, 0,1% and 0%, respectively.

Russian results provide convincing evidence that is not in line with the rest of the literature. It seems that the enclave format negatively correlates with both exports promotion and FDI inflows, which goes totally against every theory. As explained at the aggregated-level analysis, foreign entities prefer to establish in domestic-integrated zones rather than enclave-based zones, as they have at their disposal both markets internal and external. This explains why Russia has not been able to attract many FDI inflows. In contrast, *no_enclave* determines a positive correlation with the number of exports and employment. Once again, empirical evidence from other studies on Russia has determined that the SEZ policy did not solve the investment instability, the political issues and there is still a long way to improve by policy-makers.

Table 21: Russian determinants of policy outcomes

	Exports	*Employment*	*FDI*
D_rus1	*1.25e-13 ****	*6.78e-9 ****	*0.0000000722 ****
	(8.385)	*(6.249)*	*(6.236)*
yes_enclave	*0.03783 **	*< 2e-16 ****	*0.00000285 ****
	(-2.100)	*(-11.212)*	*(-4.918)*
no_enclave	*0.00864 ***	*0.0261 **	*0.5829*
	(2.671)	*(2.254)*	*(-0.551)*
D_quality	*3.18e-10 ****	*0.6082*	*0.00170 ***
	(6.872)	*(0.514)*	*(3.213)*
D_flex	*0.21072*	*0.00000686 ****	*0.00805 ***
	(1.258)	*(4.709)*	*(2.696)*
R^2	*.6578*	*.7666*	*.4801*

Note: Numbers in parentheses are t ratios. * , ** and *** done significance at 1%, 0,1% and 0%, respectively.

All factors taken into account, Hypothesis 2 and 3 are highly accomplished despite employment and exports are not significantly related, respectively. Hypothesis 1 is fully accomplished as the *yes_enclave* variable shows a negative correlation with the three of the policy outcomes.

Chapter 7. Conclusions and Recommendations

This chapter gives an overview of the work done, outlines the major findings and outcomes of this thesis, introduces the research recommendations to policy-makers, and present the future research suggestions.

Conclusions

A Special Economic Zone is considered a major commercial policy to the extent which has been employed by almost the entire globe. The potential interest of governments of regulating such a policy begins when some successful cases come out such as Shenzhen in China, Mauritius or the Dominican Republic. Countries such as Brazil, China, India, the Russian Federation and South Africa have lately become a huge potential group of middle-income economies aiming to be over G7 in the next decades. These countries have already paid attention to SEZs as a manner of nation's economic development. However, they have experienced very distinctively the implementation of such a policy, which can be easily detected in the evolution of policy outcomes.

The outcome of the literature review is that studies on the legal design of SEZs have been scarce. Most of the approaches have attempted to explain the rationale and policy outcomes from case-based studies and qualitative assessments. However, it resulted to be that every SEZ might be different in terms of resulting policy outcomes. Due to the lack of literature on zone designation criteria of SEZs, we fill the gap with a completely new approach from the actual design of the policy by creating a brand new dataset based on the key elements of the SEZ Acts and additional enactments.

In this thesis, we have addressed three research questions which have been able to be answered accurately. First, building a complete brand new dataset has allowed gaining a better understanding of the key variables that characterize the most the SEZ Act in BRICS during the whole period. We find great heterogeneity on policy designation criteria among the sample to the extent that policy-makers promulgate a broad range of decision-making on SEZs.

Second, the possibility of conducting this research from composite indicators (MVACs) has allowed the study to be conducted by applying broader concepts than simple variables. From the point of creating a dataset, we considered looking for theoretically-related concepts to SEZs to describe a much wider concept rather than simple variables. The 3 MVACs give wide different notions about the policy of each country throughout the selected period. Looking at a cross-country analysis on the MVACs, we see that institutional quality is quite present in all laws, although some countries have not attempted to call PPPs or private entities as an opportunity to improve the policy design. The enclave model is still presented in Russia and Brazil. However, SEZ-based policies attempt to build a comprehensive model integrated into the domestic economy based on the real case-based success of China. Flexibility in trade openness has been

85

somehow surprising. It was expected to find more liberal labour and environmental laws within the countries. Therefore, it was expected for countries to be more liberal in terms of trade-related rules than they actually are.

The final goal has been achieved as a result of conducting a MVRA. We contribute to the debate on the legal design of SEZs by providing the first aggregate and country-level analysis. Formulated constructs have been tested to explore whether they have a significant correlation with policy outcomes. The resulting pattern shows that enclave-based zones do not boost the growth of workplaces, at aggregate and country-level. This means that governments who aims to increase the employment rate must design a more comprehensive model fully integrated into the domestic economy. This result goes in line with the literature because enclaves do not encourage backward linkages with the domestic economy.

Besides, institutional quality is highly correlated with the promotion of exports and FDI inflows. Our findings are consistent with previous studies showing that encouraging both private and PPPs to take part in the governing bodies might help to implement a 100%-effective policy. Hereby, we noticed that the great success of China on decentralization has not been shown in the model due to the insignificant correlation.

Finally, flexible rules in trade liberalization are highly related to the increase in employment rate at both aggregate and country-level. It might seem logical that the addition of relaxed laws ought to increase the number of workplaces.

In general, we find that BRICS have barely achieved the objectives of the policy, except for China. The opportunity to develop emerging countries through SEZs created great interest among investors. Therefore, most economies did not do accurate strategic planning and caused the implementation of the policy too quickly. In order words, the high pressures of investors did not allow to create a sensible design of the SEZs, so that they could be the most effective. Thanks to the literature review and the present study, we now believe that SEZs are territory-based policies which must not be "copied" in terms of design. We find that copying is not a synonym of success, but failure instead, as two economies do not look like the same.

Research Recommendations

Some recommendations have been noted during the process of undertaking this research. Hereby, a bunch of major country-level recommendations to policy-makers, government officials are mentioned:

- *South Africa:* none of the enactments has led to any policy outcome improvement. We strongly recommend policy-makers to undertake strategic planning to understand the macroeconomic needs and national's available resources. This will entitle the government to focus deeply on the value-added services that South African country can offer. By coping an SEZ program does not guarantee a full success-based case at all.

- *India*: there is noticeable progress on the evolution of SEZ enactments, where policy elements are being more statically relevant. However, Indian policy-makers should consider rethinking the institutional framework. Giving powers to regional governments or letting private entities lead the zone authority may lead to an increase in exports and FDI.

- *Russian Federation*: policy-makers must consider the results in this assessment. Russian SEZs have neither improved investment facilitation nor world-class infrastructure and political stability. Therefore, these must rethink and rebuild the zone designation enactment from enclave-based zones to more comprehensive-based ones. Although the 5 specific sector zones project seems quite interesting, the zones locations are disposed of in different regions. This might be a reason for decentralizing some powers to regional governments so zone needs can be easily determined.

- *Brazil*: EPZ regime is an old-fashioned and useless program to develop a nation's economy. Plus, policy-makers have not changed the policy at all in 30 years. Brazilian policy-makers must undertake also the strategic planning to figure out whether SEZs is the most suitable policy for boosting exports, employment and FDI inflows.

- *China*: this is probably the most successful case-study in terms of SEZs. However, the data provide convincing evidence showing that the employment rate has been stable for the past 30 years. Towards a developed economy, one must encourage the creation of employment and the rise in the population's income. In order to do that, flexible investment rules must be applied in disadvantaged and rural regions in the country to boost the employment rate.

Research limitations

This research attempts to provide the fundaments of a zone policy design analysis to gain a better understanding of how elements in the SEZ Act significantly affect the policy outcomes. Nevertheless, it is shown that every research suffers from limitations and concerns due to many different factors. In this thesis, we detect some language-limited data in countries like Brazil. Moreover, we acknowledge that an exploratory study is missing to know the weight of the variable in each MVACs. This must guarantee the effectiveness of the regression model. Finally, for further investigation, we would need more theoretically-related concepts to fully explain policy outcomes development as R^2 of the results is on average medium-low.

Future research

It is mentioned very often throughout this thesis the lack of literature on the legal design of SEZs. This research comes up with the idea of taking down this fact and leave future scholars a great dataset to investigate SEZs from the viewpoint of the regulatory framework. Hence, future studies will have to continue to explore this unknown SEZ-related topic.

In particular, several findings of this study warrant further research, such as the effect on exports in enclave-based zones. We found some contradictory factors across selected countries. Therefore, our findings on this topic are not generalizable beyond the other worldwide SEZs.

At a country-level, future research will have to address an assessment on institutional quality of Chinese decentralization model, to confirm whether the amount of regional, local and municipality laws have particular significance to national's policy outcomes.

Chapter 6. Bibliography

Abdulmoein, F. (2014). *Human Capital Development in Special Economic Zones: The Case of Dubai*.

ADB. (2018). *Strategic framework for special economic zones and industrial zones in kazakhstan*.

Aggarwal, A. (2007). Impact of Special Economic Zones on Employment , Poverty and Human Development, (194).

Aggarwal, A. (2010). Economic impacts of SEZs : Theoretical approaches and analysis of newly notified SEZs in India, (20902), 0–60.

Aggarwal, A. (2011). Promoting Agglomeration Economies and Industrial Clustering through SEZs: Evidence from India, *2*(2), 201–227. https://doi.org/10.1142/S1793993311000282

Aggarwal, A. (2017). Towards An Integrated Framework for Special Economic Zones (SEZs): A Dynamic Institutional Approach.

Aggarwal, A., Hoppe, M., & Walkenhorst, P. (2015). *Special Economic Zones in South Asia : Industrial Islands or Vehicles for Diversification ?* (Vol. 13).

Agrawal, G. (2015). Foreign Direct Investment and Economic Growth in BRICS Economies : A Panel Data Analysis, *3*(4), 1–4. https://doi.org/10.7763/JOEBM.2015.V3.221

Blomström, M., & Kokko, A. (2003). *The Economics of Foreign Direct Investment Incentives*. *National Bureau of Economic Research*. Cambridge. https://doi.org/10.1017/CBO9781107415324.004

Castilhos, G. V. (2016). A Special Economic Zone in Brazil : The Manaus Free Trade Zone, (288), 15–18.

Chakraborty, T., Gundimeda, H., & Kathuria, V. (2017). Have the Special Economic Zones Succeeded in Attracting FDI ?— Analysis for India, 623–642. https://doi.org/10.4236/tel.2017.73047

Chen, X. (2009). The "Instant City" Coming of Age: China's Shenzhen Special Economic Zone in Thirty Years.

Chinguno, C. (2009). *Neither Fish nor Flesh: A Review of South Africa's version of the Export Processing Zones*.

COMCEC. (2017). *Special Economic Zones in the OIC Region: Learning from Experience*.

Davies, R. B. (2015). *The Impact of Special Economic Zones on Exporting Behaviour*.

Demirhan, E., & Masca, M. (2008). DETERMINANTS OF FOREIGN DIRECT INVESTMENT
FLOWS TO DEVELOPING COUNTRIES : A CROSS-SECTIONAL, (Mic), 356–369.
https://doi.org/10.18267/j.pep.337

Dür, A., Baccini, L., & Elsig, M. (2014). The design of international trade agreements:
Introducing a new dataset. *Review of International Organizations*, *9*(3), 353–375.
https://doi.org/10.1007/s11558-013-9179-8

El Alam, N. (2019). Understanding Brazilian Export Process Zone, (February).

Farole, T. (2011). *Special Economic Zones in Africa. Special Economic Zones in Africa*.
https://doi.org/10.1596/978-0-8213-8638-5

Farole, T., & Akinci, G. (2011). *Special Economic Zones. Special Economic Zones*.
https://doi.org/10.1596/978-0-8213-8763-4

Farole, T., & Akinci, G. (2017). *Special Economic Zones: An Operation Review of their Impacts*.
https://doi.org/10.1596/978-0-8213-8763-4

Fenwick, A. (1984). *Evaluating China's Special Economic Zones*.

Frick, S. A., Rodríguez-Pose, A., & Wong, M. D. (2019). Toward Economically Dynamic Special
Economic Zones in Emerging Countries. *Economic Geography*, *95*(1), 30–64.
https://doi.org/10.1080/00130095.2018.1467732

Fröbel, J., Heinrichs, J., & Kreye, O. (1978). *The New International Division of Labour*.
Cambridge University Press. https://doi.org/10.1080/13534640110063986

Gereffi, G. (1999). International Trade and Industrial Upgrading in the Apparel Commodity
Chain. *Journal of International Economics1*, *48*, 37–70.

Gibbon, P., Jones, S., & Thomsen, L. (2008). An Assessment of the Impact of Export
Processing Zones and an Identification of Appropriate Measures to Support their
Development, (April).

Hamada, K. (1974). An economic analysis of the duty-free zone. *Journal of International
Economics*, *4*(3), 225–241. https://doi.org/10.1016/0022-1996(74)90044-0

Haywood, R. (2004). *Free zones in the modern world* (World Economic Processing Zones
Association Series). Arizona.

Herlevi, A. A. (2016). What's so Special about Special Economic Zones? China's National and

Provincial-Level Development Zones. *ISA Asia-Pacific Conference 2016*, 1–43. Retrieved from http://web.isanet.org/Web/Conferences/AP Hong Kong 2016/Archive/3a83092a-cbfa-4526-85d7-3ca39931b3b4.pdf

Hirschman, D. (2016). Stylized Facts in the Social Sciences, 604–626. https://doi.org/10.15195/v3.a26

Hyun, Y., & Ravi, S. (2018). Place-based Development : Evidence from Special Economic Zones in India, (August).

Jenkins, R. (1987). *Transnational Corporations and Uneven Development: nationalization of Capital and the Third World*. (Methuen, Ed.). London.

JICA. (2013). Data Collection Survey on the Special Economic Zones in the People ' s Republic of Bangladesh Final Report.

Krugman, P. (1991). Increasing returns and economic geography. *Journal of Political Economy*, *99*(3), 483–499. https://doi.org/10.1086/261763

Kuznetsov, A., & Kuznetsova, O. (2005). The success and failure of Russian SEZs: some policy lessons, 117–139.

Le Roux, N., & Schoeman, A. (2016). A Comparative Analysis of the Design of Special Economic Zones: The Case of South Africa, Malaysia and Indonesia, *9*(October), 749–768.

Liu, C., & Cai, Y. (2018). Triple Helix Model and Institutional Logics in Shenzhen Special Economic Zone. *Science and Public Policy*, *45*(2), 221–231. https://doi.org/10.1093/scipol/scx059

Lu, Y., Wang, J., & Zhu, L. (2015). Do Place-Based Policies Work? Micro-Level Evidence from China's Economic Zone Program. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2635851

Madani, D. (1999). A Review of the Role and Impact of Export Processing Zones Dorsati Madani Address :, (August).

Masamba, M. (2014). *Establishing Special Economic Zones in the Democratic Republci of Congo: in Search of a Sound Legal Framework*.

Meng, G. (2005). Evolutionary model of free economic zones: Different generations and structural features. *Chinese Geographical Sciences*, *15*(2), 103–112.

Milberg, W. (2007). Export Processing Zones , Industrial Upgrading and Economic

Development : A Survey. *October*, 1–42.

Mistura, F., & Roulet, C. (2019). The determinants of Foreign Direct Investment : Do statutory restrictions matter ? *OECD Working Papers on International Investment*, 1–57. Retrieved from https://doi.org/10.1787/18151957

Moberg, L. (2014). *The Political Economy of Special Economic Zones*.

Moran, M. (2002). *Strategy and tactics for the Doha round: Capturing the benefits of foreign direct investment*. Manila.

O'Neill, J. (2002). Global Economics Paper No. 66: Building Better Global Economic BRICs. *Goldman Sachs Economic Research Group*, (November 2001), 1–16.

OECD. (2009). Towards Best Practice Guidelines for the Development of Economic Zones, (November), 1–15.

Oehler-Şincai, I. M. (2018). The Group of BRICS countries: Is it still Relevant for the World Economy?, *1*(1), 35–49.

Rahoof Tk, A., & Arul, P. G. (2016). An Evaluation of Special Economic Zones (SEZs) Performance Post SEZs Act 2005. *Universal Journal of Industrial and Business Management*, *4*(2), 44–52. https://doi.org/10.13189/ujibm.2016.040202

Rodrik, D. (2008). *Second-Best Institutions*. https://doi.org/10.1128/AAC.03728-14

Romer, P. M. (1986). Increasing Returns and Long-Run Growth. *Journal of Political Economy*, *94*(5), 1002–1037. https://doi.org/10.1086/261420

Siroën, J. (2014). Trade Performance of Free Trade Zones, (33), 1–28.

Sorokina, Y. (2014). Special Economic Zones of Russia Alternatives for development of Transport Hub SEZs.

Sosnovskikh, S. (2017). Peculiarities in the development of special economic zones and industrial parks in Russia. *European Journal of Geography*, *8*(4), 82–102.

The Heritage Foundation. (n.d.). Methodology of Index of Economic Freedom, 489–503.

The World Bank Group. (n.d.). The LPI methodology. *Trade Logistics in the Global Economy*, (5), 51–54.

The World Bank Group. (2008). *Special economic zones: Performance, Lessons Learned, and Implications for Zone Development*.

Thompson, L., & Tsolekile, P. (2017). BRICS Development Strategies : Exploring the Meaning of BRICS ' Community ' and ' Collective Action ' in the Context of BRICS State Led Cooperation in South Africa. *Chinese Political Science Review*, *2*(1), 101–113. https://doi.org/10.1007/s41111-017-0056-0

UNCTAD. (2019). *World Investment Report 2019*. Retrieved from https://unctad.org/en/PublicationsLibrary/wir2019_en.pdf

Viswanadham, N. (2006). Infrastructure Strategies for Export Oriented Manufacturing and Service Zones in India. *October*, *2006*(17), 1–29.

Wang, J. (2010). *The Economic Impact of Special Economic Zones : Evidence from Chinese Municipalities*.

Zhukovskaya, I. V, Shinkevich, A. I., Yalunina, E. N., Lushchik, I. V, Zhukova, M. A., Mokhova, V., & Ostanin, L. M. (2016). Features of Economic Zones ' Regulation in terms of Economic Instability, *11*(18), 12787–12801.

Glossary

ADB	Asian Development Bank
BRICS	Brazil, Russian Federation, India, China and South Africa
DESTA	Design of Trade Agreements
EPZ	Export Processing Zones
FDI	Foreign Direct Investment
FEE	Foreign Exchange Earnings
GDP	Gross Domestic Product
IDZ	Industrial Development Zone
ILO	International Labour Organization
IMF	International Monetary Fund
MNC	Multinational Corporations
MVAC	Multi-Variable Additive Construct
MVRA	Multi-Variable Regression Analysis
OECD	Organization of Economic Co-operation and Development
PTA	Preferential Trade Agreement
RCA	Revealed Comparative Advantage
SEZ	Special Economic Zone
TAB	Trade Across Borders
UNCTAD	United Nations Conference on Trade and Development

Appendixes

Appendix 1 – Variables

Objectives

[sez_obj] *Does this SEZ Act include the policy objectives?*

0	No mention elsewhere
1	Only quantitative objectives (e.g. FDI, employment, exports)
2	Only socioeconomic (e.g. labour rights)
3	Both

Industrial sector

[sez_ind_sect] *Does the SEZ Act define zone designation criteria?*

0	No mention elsewhere
1	Sector-specific restrictions (e.g. capital-intensive, labour-intensive)
2	All activities are permitted (or at least, not restricted)

Business Activities License

[sez_bus_act] *Does the SEZ Act require minimal licensing requirements for business activities?*

0	No mention elsewhere
1	Sector-specific restrictions (e.g. capital-intensive, labour-intensive)
2	All activities are permitted (or at least, not restricted)

Labour laws

[sez_labour] *Does the government provide any additional labour regulation?*

0	No mention elsewhere
1	Labour provisions are only detected in the SEZ Act
2	Specific regulations are provided

Environmental laws

[sez_envir] *Does the government provide any additional environmental regulation?*

0	No mention elsewhere
1	Environmental provisions are only detected in the SEZ Act
2	Specific regulations are provided

Zone ownership

[sez_zone_own] *Does the SEZ Act provide any restriction for foreign entities?*

0	No mention elsewhere
1	There is no restriction on the share of foreign entities
2	Restriction is settled for foreign entities

Private entities allowance

[sez_priv] *Does this SEZ Act allow private entities to represent on its Board of Directors?*

0	No mention
1	Yes
2	No

Public-Private Partnership allowance

[sez_ppp] *Does this SEZ Act allow public-private partnership in zone development?*

0	No mention
1	Yes
2	No

WTO Compliance

[sez_wto] *Does this agreement encourage to be WTO compliant?*

0	No mention
1	Yes
2	No

Infrastructure

[sez_infr] *According to the SEZ Act, is the needed infrastructure provided within the SEZs by either private or public entities?*

0	No mention
1	Yes
2	No

Autonomy of the governing body

[sez_gov_bod] *Does the SEZ Program include an autonomous governing body?*

0	No mention
1	Yes
2	No

Fiscal Incentives package

[sez_fisc_pack] *Does the SEZ Act contain a fiscal-incentive package for SEZ-based firms?*

0	No mention
1	Yes
2	No

Non-Fiscal Incentives package

[sez_nfisc_pack] *Does the SEZ Act contain a non-fiscal-incentive package for SEZ-based firms?*

0	No mention
1	Yes
2	No

Duration of Incentives package

[sez_dur_pack] *Does the SEZ Act specify any temporal limitation when it comes to incentives package?*

0	No mention
1	Yes
2	No

One-Shop Stop

[sez_one_shop] *Does this SEZ Act provide a fast-track, on-site clearance for streamlined customs procedures?*

0	No mention
1	Yes
2	No

Land Accessibility

[sez_land] *Does the government provide any additional land access regulation?*

0	No mention elsewhere
1	Land access provisions are only detected in the SEZ Act
2	Specific regulations are provided

Definition of rights and duties of actors and boards

[sez_rights_duties] *Does the SEZ Act contain the definition of rights and duties of the different actors and boards involved in the development of SEZ program?*

0	No mention
1	Yes
2	No

Domestic sales allowance

[sez_dom_sales] *Does the SEZ program allow duty-paid 100% domestic sales?*

0	No mention
1	Yes
2	No
3	Domestic sales are allowed but in a certain share

Backward linkages

[sez_back_link] *Does this agreement encourage to use domestic resources (e.g. technology or human capital)?*

0	No mention
1	Yes
2	No

Zone Authority (De)Centralization

[sez_zone_auth] *Does this SEZ Act decentralize SEZ Authority from the central government to loca / regional / municipal administrations?*

0	No mention
1	Yes
2	No

Zone Location

[sez_zone_loc] *Does this SEZ Act provide a specific zone location for zone development programs?*

0	No mention
1	Yes
2	No

Appendix 2 – Database of model strategy

Country	Year	log_ employment	log_ exports	log_ fdi	yes_ enclave	no_ enclave	D_flex	D_quality	D_br1	D_br2	D_ch1	D_ch2	D_in0	D_in1	D_in2	D_in3	D_rus1	D_sthaf1	D_sthaf2	D_sthaf3
BR	1991	1,949	4,554	3,043	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	1992	1,958	4,613	3,314	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	1993	1,969	4,652	3,111	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	1994	1,978	4,709	3,487	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	1995	1,986	4,749	3,687	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	1996	1,980	4,762	4,099	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	1997	1,987	4,810	4,293	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	1998	1,989	4,804	4,504	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	1999	1,995	4,767	4,453	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	2000	2,005	4,828	4,518	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	2001	2,013	4,844	4,366	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	2002	2,025	4,859	4,220	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	2003	2,027	4,934	4,005	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	2004	2,041	5,046	4,260	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	2005	2,048	5,134	4,189	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	2006	2,055	5,211	4,287	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
BR	2007	2,059	5,292	4,649	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
BR	2008	2,068	5,382	4,705	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
BR	2009	2,068	5,278	4,498	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
BR	2010	2,068	5,397	4,916	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

BR	2011	2,068	5,499	5,010	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
BR	2012	2,076	5,463	4,966	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
BR	2013	2,080	5,466	4,876	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
BR	2014	2,083	5,434	4,943	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
BR	2015	2,079	5,354	4,811	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
BR	2016	2,066	5,363	4,871	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
BR	2017	2,065	5,441	4,838	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
BR	2018	2,069	5,460	4,893	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
CH	1991	2,948	4,843	3,640	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
CH	1992	2,953	4,926	4,048	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
CH	1993	2,957	4,960	4,440	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
CH	1994	2,960	5,097	4,529	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
CH	1995	2,964	5,183	4,554	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
CH	1996	2,967	5,253	4,604	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
CH	1997	2,969	5,165	4,657	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
CH	1998	2,972	5,167	4,659	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
CH	1999	2,973	5,199	4,613	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
CH	2000	2,974	5,307	4,624	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2001	2,971	5,338	4,673	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2002	2,968	5,408	4,725	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2003	2,964	5,665	4,763	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2004	2,962	5,796	4,833	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2005	2,961	5,910	5,017	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2006	2,960	6,020	5,094	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2007	2,960	6,127	5,194	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0

102

CH	2008	2,958	6,206	5,234	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2009	2,957	6,133	5,117	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2010	2,957	6,242	5,387	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2011	2,958	6,333	5,447	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2012	2,959	6,370	5,382	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2013	2,960	6,405	5,464	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2014	2,961	6,432	5,428	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2015	2,961	6,412	5,385	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2016	2,962	6,384	5,242	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2017	2,963	6,434	5,220	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
CH	2018	2,961	6,460	5,309	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0
IN	1991	2,708	4,366	1,867	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN	1992	2,716	4,404	2,442	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN	1993	2,724	4,439	2,741	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN	1994	2,732	4,510	2,988	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN	1995	2,739	4,597	3,331	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN	1996	2,746	4,627	3,385	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN	1997	2,753	4,666	3,554	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN	1998	2,759	4,677	3,421	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN	1999	2,765	4,727	3,336	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN	2000	2,771	4,796	3,554	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN	2001	2,780	4,817	3,710	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN	2002	2,788	4,868	3,717	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN	2003	2,796	4,946	3,566	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
IN	2004	2,805	5,082	3,735	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0

Grau en Logística i Negocis Marítims

IN	2005	2,813	5,205	3,861	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
IN	2006	2,815	5,304	4,302	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
IN	2007	2,816	5,403	4,402	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
IN	2008	2,816	5,506	4,638	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
IN	2009	2,814	5,439	4,551	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
IN	2010	2,814	5,554	4,438	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
IN	2011	2,811	5,659	4,562	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
IN	2012	2,809	5,657	4,380	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
IN	2013	2,813	5,681	4,450	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0
IN	2014	2,818	5,697	4,539	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0
IN	2015	2,823	5,647	4,644	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0
IN	2016	2,827	5,649	4,648	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0
IN	2017	2,832	5,706	4,602	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0
IN	2018	2,835	5,747	4,624	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0
RUS	2005	1,910	5,457	4,191	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
RUS	2006	1,911	5,560	4,575	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
RUS	2007	1,921	5,639	4,747	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
RUS	2008	1,922	5,767	4,874	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
RUS	2009	1,913	5,576	4,563	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
RUS	2010	1,917	5,681	4,635	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
RUS	2011	1,923	5,790	4,741	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
RUS	2012	1,929	5,805	4,704	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
RUS	2013	1,929	5,802	4,840	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
RUS	2014	1,932	5,785	4,343	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
RUS	2015	1,931	5,634	3,836	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0

Grau en Logística i Negocis Marítims

RUS	2016	1,933	5,572	4,512	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
RUS	2017	1,932	5,660	4,456	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
RUS	2018	1,931	5,749	3,944	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
STHA	1993	1,188	4,477	1,053	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
STHA	1994	1,198	4,491	2,573	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
STHA	1995	1,209	4,551	3,096	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
STHA	1996	1,216	4,563	2,912	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
STHA	1997	1,225	4,579	3,581	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
STHA	1998	1,233	4,557	2,741	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
STHA	1999	1,238	4,551	3,177	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
STHA	2000	1,246	4,597	2,986	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
STHA	2001	1,248	4,584	3,862	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
STHA	2002	1,236	4,592	3,170	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
STHA	2003	1,235	4,701	2,894	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
STHA	2004	1,245	4,790	2,846	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
STHA	2005	1,266	4,862	3,814	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
STHA	2006	1,284	4,931	2,795	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
STHA	2007	1,295	5,002	3,819	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
STHA	2008	1,333	5,037	3,995	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
STHA	2009	1,319	4,943	3,882	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
STHA	2010	1,305	5,051	3,567	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
STHA	2011	1,312	5,121	3,617	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
STHA	2012	1,321	5,093	3,665	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
STHA	2013	1,334	5,080	3,916	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
STHA	2014	1,340	5,072	3,763	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Grau en Logística i Negocis Marítims

STHA	2015	1,355	5,017	3,182	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
STHA	2016	1,354	4,987	3,345	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
STHA	2017	1,362	5,040	3,314	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
STHA	2018	1,370	5,070	3,738	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Grau en Logística i Negocis Marítims

TecnoCampus
Escola Superior
de Ciències Socials i de l'Empresa

Centre adscrit a la

upf. Universitat
Pompeu Fabra
Barcelona

Appendix 3 – Table Comparison: Elements of SEZ Acts

	RUSSIA (2005)	SOUTH AFRICA (1993)	CHINA (1980)	INDIA (2005)	BRASIL (1988)
Definition of rights and duties of actors and boards	YES	YES	YES	YES	YES
Public powers	Government of Russian Federation: Ministry of Economic Development of the Russian Federation (Public)	Special Economic Zones Advisory Board composed of 15 members from a variety of entities and public departments. The Minister is the maximum responsible for SEZs.	The Guangdong Provincial Committee for the Administration of Special Economic Zones	Board of Approval (Central Government of India).	Ministry of Industry, Foreign Trade and Services
Private entities within the governing bodies	NO	NO	NO	NO	NO
Public-private partnership allowance	YES. Only in Zone Operators.	NO	NO	NO	NO
Time limit	YES	Not mentioned	Not mentioned	YES	YES
Business Activities License	YES. The operator must get a valid permit for a temporary time limit.	YES. The operator must get a valid permit for a temporary time limit.	YES. The operator must get a valid permit for a temporary time limit.	YES. The operator must get a valid permit for a temporary time limit.	YES. The operator must get a valid permit for a temporary time limit.

Customs control	Public entities	Public entities	Public entities	Public entities	Public entities
Industrial Sector	Sector specific: 1) industrial 2) technological 3) tourism 4) logistic.	Sector specific: (a) a free port; (b) a free trade zone; (c) an industrial development zone; and (d) a sector development zone.	All activities are permitted. There is no specific restriction	Not mentioned	Not mentioned
Land use	For a temporary use, the zone manager will manage land and will dispose a lease contract for possible tenants. Land plots are never owned by Zone Operators, but by the country.	The tenants/applicants must demonstrate in the application that the SEZ will go according to the policy objectives.	Land is owned by the country.	The tenant shall identify the area and apply for that.	Land is owned by the country. The tenant shall apply for that.
Domestic sales (with duty-paid 100%)	YES	NO	YES	YES	Domestic sales are allowed in a certain share.
Promote linkages with the domestic economy? (either technology and human capital)	Not mentioned	Not mentioned	Enterprises must be encouraged to use equipment from China and Chinese workers to be employed in SEZs.	YES	It does not encourage linkages with host economy

Investment (infrastructure)	On-site and off-site infrastructure. Transport and logistics network. All by public funds.	Public funds voted by Parliament will support the promotion and development of SEZs	Not mentioned	Developer must provide off-site infrastructure.	Not mentioned
Incentives Package	YES	YES	YES	YES	YES
One-Shop Stop	YES	NO	Not mentioned	YES	NO
Allow foreign investors?	There is no restriction on the share of foreign entities	There is no restriction on the share of foreign entities	There is no restriction on the share of foreign entities	There is no restriction on the share of foreign entities	There is no restriction on the share of foreign entities

109

Grau en Logística i Negocis Marítims

TecnoCampus
Escola Superior
de Ciències Socials i de l'Empresa

Centre adscrit a la

upf. Universitat
Pompeu Fabra
Barcelona

Appendix 4 – Multi-Variable Additive Constructs

Name of construct		Variables
Construct 1	**Enclave model**	Industrial sector
		Business Activities License
		Domestic Sales Allowance
		Zone Location
		Zone Ownership
Construct 2	**Institutional quality**	Private Entities Allowance
		Public-Private Partnership Allowance
		Autonomy of the Governing Body
		Rights and Duties of actors and boards
		Zone Authority (De)centralization
Construct 3	**Flexibility in trade openness (linked to trade liberalization)**	Duration of incentives package
		WTO compliant
		Labour and environmental laws
		Land accessibility

Appendix 5 – Descriptive Statistics Graphs

The next figures shows the evolution of the policy outcomes by each SEZ policy Act and further updates. On the one side, the most noticeable outcome is exports which exponentially raised for every country. However, on the other side, employment stays flat for the whole time series.

Figure 14 shows that the employment rate has remained stable in 30 years in almost all countries. While employment has declined slightly in China, it remained steady in Russia, Brazil and South Africa and it has positively grown in India. In any case, there is no significant improvement after issuing policies SEZs, since in all cases the results have either remained stable or have decreased. Although the percentage of employability for people over 15 years old is decreasing or remaining stable, the population factor should be taken into account as there is a strong likelihood that there has been a rise of it in the last decades.

Figure 12: Total Employment (14-65 years)
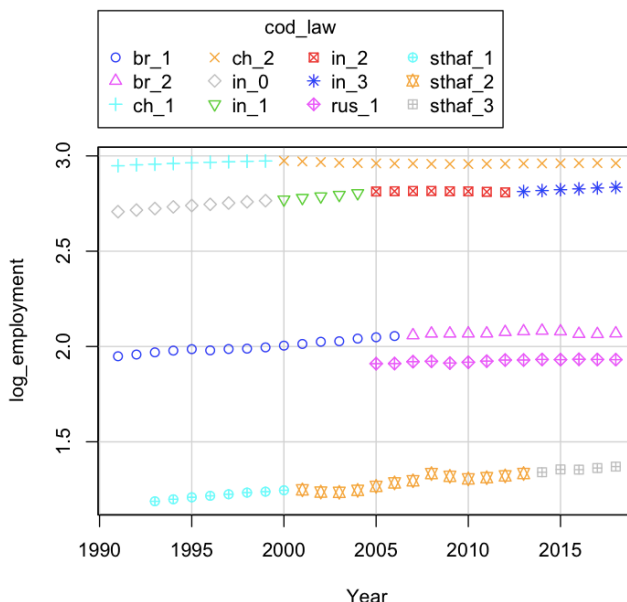
Source: self-created from the World Bank Data

Nonetheless, exports of goods and services have experienced major changes over the past 30 years for all countries. According to **Figure 15**, China's exports has evolved positively and differs extensively from the rest. Its results are currently four times the exports of other countries due to trade liberalization and expansion of external markets. The changes in the four missing countries are quite inappreciable, even though the recovering period after 2008' economic crisis was shorter than western countries. According to the literature review, these countries continue to emerge and need to change policies towards trade liberalization.
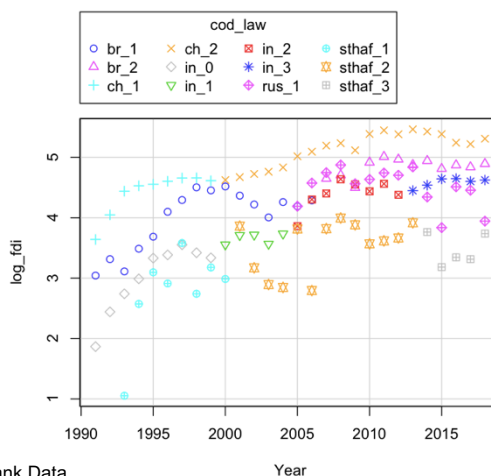
Figure 13: Exports of goods and services
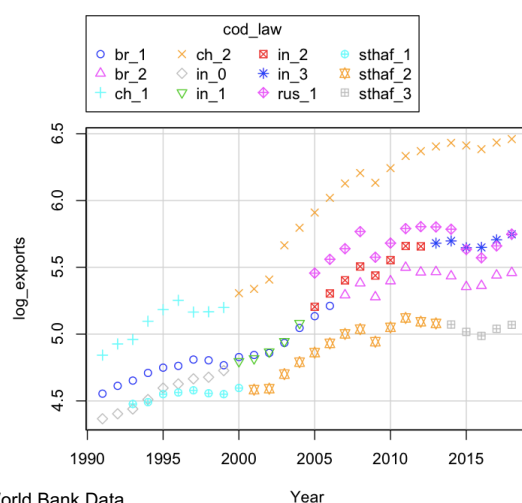
Source: self-created from the World Bank Data

The latest indicator pictured on **Figure 16** is about FDI net inflows. All in all, although it shows an increasing trend among the five countries, there is still some doubt about the effectiveness of SEZ policy enactments as it reveals ups and downs the whole period.

It shows a rise in the Brazilian and Chinese economy in the 90s. There is an acceleration of growth for either the Russian Federation, India and Brazil in mid 00s with the implementation of SEZ policies. For China, the rise happened also during the decade of 00s, but in an exponential way in comparison to the other countries. During these years, many companies got interested in offshoring their production lines to emerging countries were labour prices were lower. This rise was even more stronger during the recovery process of 2008' economic crisis for both Brazil and China. South Africa have not experienced any changes during these three decades meaning that the actions taken by the central government have not motivated foreign-owned firms to come and establish. The case of India is rarely noticeable as the FDI levels have remained still after a timid rise in mid 00s.

Figure 14: Total Foreign Direct Investments

Source: self-created from the World Bank Data