

Positive economic impact of a Free Trade Zone in the Dominican Republic

Bachelor Thesis for Obtaining the Degree Bachelor of
Science in International Management

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Affidavit

I hereby affirm that this Bachelor's Thesis represents my own written work and that I have used no sources and aids other than those indicated. All passages quoted from publications or paraphrased from these sources are properly cited and attributed.

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Abstract

The objective of this bachelor thesis is to identify positive impacts of free trade zones on the Dominican Republic's economy through a case study. In the preface the concept of free zones, the definition and the general economic impacts as well as the historical developments and trends are examined in the literature review. Through the case study involving expert interviews to collect qualitative data, analysis of statistical reports with economic indicators and the in-depth analysis of a zone located in the country, positive impacts are identified and in more detail discussed. The in-depth analysis helps to add additional information that cannot be identified through analysis of the overall sector. In conclusion, this thesis shows that the identified positive impacts are of high importance and help an undeveloped country in fostering economic process and societal development.

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1 Introduction

Throughout the 20th century, free trade and globalization have both significantly grown in importance in almost every country around the world. This development helped in terms of world trade have helped elevating living standards around the world, especially in underdeveloped and developing countries. With this, different methods to foster economic growth have come up around the world, that make use of the more global markets and the underlying free trade principles.

One of those methods, is the instrument of a free trade zone to foster the growth of a nation's economy in different aspects. A free trade zone falls under the general concept of a free zone and essentially provides companies located within such a zone with a special regulatory framework, with reduced to no taxes and export import duty exemptions (World Customs Organization, 2008).

Throughout the years and different applications of the approach of free zones within different countries, a variety of zone concept has developed, that are aimed to cater to different companies hosted within their environment (Farole & Akinci, Special Economic Zones - Progress, Emerging Challenges and Future Directions, 2011). Historically, free zones were established as isolated areas, with little to no backward linkages to the host country's economy. Later on, this approach changed and in order to help the economy to grow and develop linkages with free zones, concepts of such and the regulatory frameworks in the countries were adapted (FIAS, 2008).

As the usage of such economic instruments can have various positive impacts on a countries economy, this thesis aims to address these impacts through a case study answering the research question of **“How does a free trade zone positively impact on the Dominican Republic's Economy”**.

In the first part of this thesis, relevant literature will be used to explain the core concepts necessary to understand the topic, highlight the aims of the set-up of such zones and give information on developments and modern zones that are operated today. The second part addresses the free zone sector in the Dominican Republic as whole and analyzes a zone in depth. In the final part, the results are reviewed and the positive impacts are highlighted.

2 Literature Review

2.1 Definition of a Free Zone

As free zones have existed for hundreds of years and developed different characteristics and names, finding a suitable definition can be challenging. The development of this variety of names can simply be explained through 4 main factors, (1) differentiating between types of zones that differ in operation; (2) different economic vocabulary throughout countries; (3) the desire to differentiate a zones product to the competition; (4) translation interpretations (Farole, Special Economic Zones in Africa, 2011). In this way, to define an economic zone, the term must be broad enough to include past, present as well as future zones, while still precise enough to exclude zones that do not have the necessary features to be considered an economic zone (Farole, Special Economic Zones in Africa, 2011). Hence the modern term that encompasses all variants of economic zones is, *special economic zone* (FIAS, 2008). Basic principles that are incorporated in the concept of special economic zones include:

- Streamlined processes and separate customs area
- Single administration
- Entitlement to special benefits based on location within a zone
- Geographically limited area, that may also be fenced in

According to Farole (2011), these zones can be defined through the components of the term itself – *special* referring to the different regulations applied in the zone compared to the domestic economy; *economic* broadly defining the activities the zone is meant for without limiting them in terms of focus or nature; *zone* specifying that it is a physical space within the domestic country (Farole, Special Economic Zones in Africa, 2011).

The core definition for a free zone can be found in the Revised Kyoto Convention of the World Customs Organization and is as follows “free zone means a part of the territory of a Contracting Party where any goods introduced are generally regarded, insofar as import duties and taxes are concerned, as being outside the Customs

territory” (World Customs Organization, 2008, Annex D Chapter 2). Hence, according to this, every type of special economic zone, can fundamentally be called a free zone.

2.2 History of Free Zones

When free zones were established, they were developed as isolated areas, or so called “enclaves” within the host countries, limiting the ability to contribute to areas other than economic processes. Over time and through policy changes this concept evolved and became more engaged with the host countries economy and society. The earliest examples that share the most basic policies of modern zones, were established in Gibraltar in 1704 and in Singapore in 1819, which were designed as manufacturing centers and free ports at advantageous locations. The world’s oldest free zone, that can be considered the first modern zone was established in Shannon, Ireland in 1959 (FIAS, 2008). The reason for the set-up of the Shannon free zone was that through technological advancements, transatlantic flights would not have to refuel at Shannon airport anymore resulting in a serious decline in flight traffic. In order to prevent around 1500 people, that were employed at the airport, from being unemployed the Irish government transformed the airport into a free zone (Shoesmith, 1986). It was developed to offer investors secure access to European markets, subsidized rent and facilities and attractive tax benefits as well as specialized training and manpower development facilities from the beginning on, which a resulted in a boost in export manufacturing (FIAS, 2008). In 2008, 7500 people were employed within the zone by 120 companies, signaling that the objective of securing jobs in the region of Shannon proved to be successful.

Until the 1970s, the majority of zones were located in industrialized countries, most of them in Western Europe. After the successful set-up of the industrial free zone in Shannon, Ireland in 1958, several developing countries in Latin America and East Asia set-up export processing zone programs. The 1980s were a period with particular important events taking place in zone development, as countries in South Asia, sub-Saharan Africa and South America also initiated similar programs and the first privately developed and owned zones came into existence in the Caribbean and Central America. These events lead to a boom in zone development, where new zone concepts were developed in countries in North and Middle East Africa, Central and Eastern Europe and the Commonwealth States (FIAS, 2008). Evidence of this boom in

zone development can be found when comparing the number of zones in 1975 and 2006, where in 1975, EPZs were located in 25 countries and amounted to a total of 79 and in 2006, EPZs were located in 130 countries and amounted to a total of 3500 while also creating 66 million in employment (ILO, 2007). This means that in 31 years, the number of zones increased by more than 44 times, or that every year since 1975, more than 110 new zones were established throughout the world.

2.3 Types of zones

Due to the evolution of the traditional zone concept, a variety of zones has evolved. The FIAS report (2008) identifies the following types of zones (pp. 10-11):

- **Free trade zones**, are fenced-in areas that are usually duty-free and offer warehousing, distribution facilities for trade, transshipment and re-export operations. Free trade zones are small and mostly located in proximity of ports of entry in countries.
- **Export processing zones**, offer incentives and facilities targeted at manufacturing and related activities with the goal to foster exports. These zones can take two forms, either the approach of a traditional EPZ where the entire area of the zone is designated to exclusively host exporting firms or the approach of a hybrid EPZ that is divided into a general area and one that is for exporting companies.
- **Freeports**, are much larger areas and accommodate various types of activities that range from tourism to retail sales and also provide a much broader set of incentives. A typical example are the large-scale freeports in China.
- **Enterprise Zones**, have the goal of encouraging growth in urban or rural areas with little economic activity by providing special tax incentives and financial support. These zones are mostly located in developed countries such as the United Kingdom and the United States.
- **Single Factory EPZ**, where factories do not have to locate in a specific zone but rather receive zone like benefits and privileges to where they are located.

All the mentioned types of zones, except the single factory EPZ, share the basic traits of special economic zones - a set of special incentives and regulations, location based benefits and a separated secure area with a single administration.

Many of these zones have developed into specialized facilities that are designed to meet the needs of specific industries as well as provide advanced services. As long as these zones still meet the criteria for special economic zones, they can still be defined through one of the main identified terms (FIAS, 2008).

2.4 Features of SEZs

Special economic zones feature structural and political goals that are necessary characteristics for the way they are set up and operate. Not all zones manifest all of these features, but will display core characteristics in order to be considered an SEZ. The main structural features of a zone are (Farole, Special Economic Zones in Africa, 2011):

1. A zone is a segregated area of the national territory, governed under special legal framework providing it with a set of more liberal investment, trade and operating rules. Under this framework, a zone can be administered more efficiently than the host country.
2. Generally, a zone requires a dedicated governance structure administering the regulatory system to ensure the efficient management and that investors benefit from its operation.
3. Physical infrastructure - such as real estate, roads, electricity, water and telecommunications - to support operations of the firms within zones, is usually provided to them. Key transport infrastructure includes roads, connecting the zone to its sources and the markets as zones usually exist to host firms.

Finally, according to Farole (2011), “The determinant structural feature of a zone is that it benefits from a different regulatory regime from that in the rest of the economy” (p. 25).

In terms of policies, special economic zones usually receive import and export duty exemptions, streamlined customs and administrative control procedures, liberal foreign exchange policies and income tax incentives. The main incentive of this policy package is to boost investment competitiveness and reduce business entry and operating costs as well as enable export manufacturers to compete in international markets through the free trade status. Reasons for establishing SEZs, especially in

developing economies, are usually to achieve one or more of four broad policy objectives (FIAS, 2008, p. 12):

1. **In support of a wider economic reform strategy.** SEZs are an easy approach, that enables a country to develop and diversify exports. Zones are a way of reducing anti-export bias while keeping protective barriers intact
2. **To serve as “pressure valves” to alleviate growing unemployment.** The SEZ programs of Tunisia and the Dominican Republic are frequently mentioned as examples of robust, job-creating programs.
3. **As experimental laboratories for the application of new policies and approaches.** China’s SEZs can serve as an example, where financial, legal, labor, and even pricing policies were introduced and tested first within the SEZs before being extended to the rest of the economy.
4. **To attract foreign direct investment.** Nearly all modern SEZ programs have the goal to attract foreign direct investment.

2.5 Trends in Zone Development

Special economic zones initially started off being developed, managed and governed by governments and were located relatively remotely as zones were intended to foster regional growth. The access to regulatory privileges and incentives was tightly controlled and companies at times had to be export oriented to a certain percentage. Since 1980, however, the approach to zone development has changed fundamentally and has undergone major changes in terms of administration, ownership and many more factors. As a result of the failure of many *public zones*, that were located in rather secluded areas, and increased interest of private investors in special economic zones, zone development has been permitted countrywide. In order to make these developments possible, governments developed zone designation criteria as well as new transparent processes to govern the designation of new *privately owned zones* (FIAS, 2008). According to the study conducted by FIAS (2008), in the 1980s only 25 percent of zones around the world were privately owned while recently this amount increased to 62, percent which means that this amount more than doubled (p.18). This development initially started off in the Caribbean and Central America where governments struggled to keep up with the demand for infrastructure development placed on them by private developers, due to a lack of evaluation and designation

criteria. With the introduction of public-private partnership concepts to foster development of zones, improvements in the cooperation of government bodies and private zone developers have been made. Major improvements include:

- To foster private on-site infrastructure development, governments provide off-site infrastructure including building streets, connections to energy grids, telecommunications and more.
- Introduction of build-operate-transfer and build-own-operate concepts of off and on-site zone infrastructure with public financial support.
- Development of better land use and ownership laws regulating and securing rights of private groups on zone land.
- Arrangements where a private contract manager can buy a zone after meeting certain performance criteria.
- Lease of government owned zones by private operators and contracts for private management of government zones.

Another change that arose from the introduction of privately owned zones is the increase in services offered to firms hosted within zones. These services include:

- Medical clinics
- Commercial centers
- Training facilities
- Warehouse facilities
- On-site customs and trade logistics facilities
- Repair and maintenance centers
- High-speed telecommunications and internet services

There has also been a change in how zones compete with each other, where development shifted from price-based competition to product differentiation and targeting specific industries to be hosted. The (FIAS, 2008) report identified three main changes that lead to the development of “next generation” zones:

1. Zones provide a greater range of services and specialized facilities that enable them to increase revenues by as much as 50 percent in addition to rental and sales income.

2. Development of zones on integrated basis as parts of residential or commercial communities, allowing zones to make up for low profitability of the industrial sector with higher profits in residential and commercial sectors.
3. Increased specialization of development based on the target industries individual needs. As an example, software and informatic industries have been successfully targeted in the Dominican Republic, Mauritius and India.

Through these major changes in development approaches in private owned zones, countries such as the Dominican Republic were able to attract higher value-added industries enabling these zones to charge premium rates. On the other hand, publicly owned zones usually host low-margin, cost sensitive companies such as apparel and footwear assembly (FIAS, 2008).

In addition to the shift to privately owned zones, there has also been a transformation of the bodies governing, developing, planning and administering zones as well as in the system of regulating them. Originally, special economic zones were developed, operated and regulated by one single body. Now most countries have introduced public sector zone management agencies or given the task of physical zone development to the private sector while changing the government agencies to planning, regulating and promoting departments. These new concepts are especially prominent in Latin America (FIAS, 2008).

A further important trend has been a reconsideration of the approach to the function of a zone in economic development. Zones used to be developed with objectives closely related to trade-restricted or closed economies and served the purpose to create jobs, promote exports and transfer technology through linkages to the economy of the host country. Growing globalization and more liberal trade lead to the development of a more sophisticated idea of zone programs in terms of goals and expectations. To an increasing extend, zones are seen as a key tool to promote trade as well as liberalization and modernization of the domestic economy through integration. This trend is especially present in export processing zones as these zones are being developed into more flexible zones or even hybrid export processing zones. Generally, distortions and restrictions have been removed and been brought in line with best practices. New and improved regulations, according to (FIAS, 2008) include:

- Treating domestic sales to zones as “constructive exports” qualified for relevant export incentives.
- Reduction of minimum export quotas in agreement to the WTO framework and to welcome globalization.
- Allowing zone developers to act as intermediaries and supply hosted businesses with services such as telecommunications, water, electricity etc.
- Harmonization of fiscal incentives with the domestic economy rather than separate political systems for zones.
- Inclusion of commercial and professional services, e.g. warehousing, informatics, as addition to manufacturing and processing.
- Providing incentives for private zone developers to boost private interest in zones.
- Treating investors and forms of investment equally by granting incentives without making differences, to foreign investors, local investors and all kinds of legal investments.
- Increased use of automation and enhanced transparency for processes to simplify registration processes and customs procedures.

2.6 Effects of Free Zones

2.6.1 Definition of benefits

Benefits from developing zones in a country are both static and dynamic, of which static benefits are intensified in developing economies. Static benefits include (FIAS, 2008, p. 32):

- Foreign exchange earnings
- Government revenues
- Foreign Direct Investment
- Export growth and diversification
- Direct employment and income generation

The second type of benefits, dynamic benefits, are more important in terms of long term impact of zone development, but are generally harder to measure. Dynamic benefits include (FIAS, 2008, p. 32):

- Technology transfer
- Regional development
- Indirect employment creation
- Female employment
- Skills upgrading

2.6.2 Definition of Costs

Where there are benefits, there are also costs involved. In the case of zone development, there are costs in different areas: financial, economic and socio-economic. Economic and financial costs, carried by governments, include costs such as: infrastructure development expenses, import taxes and charges lost from leaked duty-free products, salaries for government workers involved in zone governing processes, taxes lost from domestic companies relocating to a zone. This is obviously only the case for publicly developed and run zones, as for privately developed and owned zones costs are covered by private investors and government investment are typically recovered through long-term gains (FIAS, 2008).

In terms of socio-economic costs, zones have been criticized for the negative impact particularly on labor, working conditions and the role of women (ILO, 1998). These include:

- Not adhering to labor standards and suppression of core labor rights like trade unionization.
- Exploiting women through lack of training and lower wage levels.
- Bad employment conditions in terms of work hours, workplace safety and health
- Negligent environmental standards.

Other important consideration when it comes to the analyzing costs of zone development are opportunity and policy related costs, which include considerations such as (FIAS, 2008):

- Are human resources that are employed in zone authorities more needed in other government departments with higher priorities?

- Does zone development prevent government resources from being used for other important needs such as education, infrastructure or health?
- Is through a focus on zone development the dependence on low-skill, low technology operations stimulated?

2.6.3 Economic effects

2.6.3.1 Foreign Direct Investment

Through the establishment of special economic zones, that offer superior-standard facilities and follow best practice policies, zones can attract FDI and play a vital role in compensating a negative investment climate. The amount of FDI special economic zones attract, can be hard to measure, as many zones do not record foreign investments separately (FIAS, 2008). For many zones that do keep track, data hints that zones can be an important destination for foreign direct investment as for example in the Philippines where FDI to zones increased from 30 percent in 1997, to more than 81 percent in 2000, while in other countries zones had little impact on attracting FDI (UNCTAD, 2003)

2.6.3.2 Foreign Exchange Earnings

Foreign exchange earnings are considered to be one of the major economic benefits that can be anticipated when developing special economic zones. While the contribution of zones to foreign exchange earnings can be hard to measure because of a lack of data, it can be approximated by tracking net exports as an index for the local value added from zones. This indicator actually very much differs from country to country, where in Mauritius net special economic zone exports increased from 23 percent in 1980 to almost 50 percent in 2001 (FIAS, 2008), while on the other hand in the Dominican Republic it decreased from around 40 percent in the 1980s to around 25 percent by the end of the decade (Jenkins, Esquivel, & Larrain, 1998).

To explain the reasons for the significant differences in performance, a number of factors can be considered. These factors include, distortion of the value of net exports through exchange rate devaluations that raise import prices and the degree of success governments had in creating backward linkages with suppliers in the domestic economy or the degree of domestic inputs used in export production. As backward and forward linkages to and from firms located within zones to the host economy are

a particularly important topic, several theories try to explain the reason for failure in establishing these linkages (FIAS, 2008):

- Ban against local sales by enterprises within zones.
- Lack of competitiveness of local firms – Domestic firms in developing economies might be not interested or unable to service companies with a complete different set of requirements for quality, scale or price (Cling & Letilly, 2001).
- High import dependence of most zone activities.
- Impact of export market access arrangements.
- Lack of awareness and information about domestic suppliers.
- Preference by global firms to rely on established international suppliers.

In general, it can be said, that there is an incentive for linkages to develop with special economic zones, as local firms that sell products to zones are qualified for tax returns because the sold products are considered exports (FIAS, 2008).

2.6.3.3 Budgetary Impacts

The impact on government budgets depends on two factors, fiscal benefits and the tax policies that are offered to enterprise located with zones. Generally, export processing zones offer a set of fiscal incentives that include import duty exemptions, tax abatements, income tax holidays and more. All of these incentives can be considered taxes host countries miss out on, but on the other hand it is unclear if investors would even locate within zones without being granted mentioned incentives (FIAS, 2008). The development of zones results in various revenue and cost flows for governments. Revenues include: Corporate income tax (if no tax holiday is in place), Permit fees and service charges, import duties and taxes on products sold to the domestic economy, Personal income tax on direct and indirect employment, rental or sales fees for public land and concession fees for facilities such as power plants. Costs include: Subsidies, taxes forgone from relocation of firms from domestic land to zone land, import duties and tax charges lost from leakages, wages of government staff working in zone administration, development costs for infrastructure to zones and for public zones costs for development of internal infrastructure (FIAS, 2008).

When costs outweigh a zone's benefits, zones can become massive financial failures for governments. Three main scenarios that could cause this case are: zone development causes massive government investments in infrastructure; zones receive subsidized electricity or other services; zones are not operated on a cost-recovery basis. Through recent developments, such as reduced infrastructure development costs, better location planning and more privately developed and operated zones, public costs have been reduced (FIAS, 2008).

2.6.3.4 Export Development

Developing exports, in terms of boosting exports and diversification of exports, is one of the main goals of establishing special economic zones, especially EPZs. This factor is particularly important in developing countries that mostly export primary products produced by agriculture or similar basic industries (FIAS, 2008).

EPZs account for a considerable share of exports, where in 2005 in the Dominican Republic the share amounted to 77 percent, in the Philippines to 78,2 percent, in Lebanon to 36,3 percent and in Madagascar to 80 percent (FIAS, 2008). For most developing countries, zones also helped to accelerate the diversification of exports where a shift from almost only export of primary commodities to manufactured goods took place. For example in Costa Rica, the type of exported goods, shifted from mainly exporting fruits and vegetables to exporting electric circuits, where in 1990 the share of manufactured goods only amounted to 10 percent and in 2003 had increased to 55 percent (FIAS, 2008).

2.6.3.5 Employment Generation

Another key goal of establishing special economic zones, such as export processing zones, is employment generation. Zones are seen as very effective methods to generate jobs, especially for women entering the workforce. Based on available data, the direct employment effect of export processing zones appears to be rather small and for most countries zones do not provide a large source of employment. Indirect employment generation on the other hand, could be considerable and range from 9,6 million to 77 million jobs globally (FIAS, 2008).

However, for certain countries zones are a substantial source of jobs and play a big role in employment creation. For example, the Philippine zones employ almost 1

million workers and the Dominican Republic's zones employment amounts to 200.000. The jobs that are created through zones, are especially important in countries with high rates of unemployment, while the ratios are mostly small, e.g. in the Dominican Republic 6,2 percent, zones can help to offset the effects of high unemployment. Zones seem to be more effective in employment creation in smaller countries with populations less than 5 million, for example in Mauritius where the share of zone employment amounts to 24 percent (FIAS, 2008).

2.6.3.6 Technology Transfer and Industrial Advancements

As zones have played a vital role in the diversification of exports, it can be assumed that there was also contribution to upgrading the skills of workers. Opponents of zone development have argued that this is in fact not true. Although zones in many countries diversified exports from clothing to electronics, or other specialized sectors, production processes and skill requirements practically stayed the same. Critics point out, that most zone enterprises rival on a price basis and tend to not invest much in increasing productivity, modern technologies or skill development (FIAS, 2008).

Due to absence of zone and company data, this issue is hard to analyze and the only available indication for an assessment is the amount skilled labor within the total zone workforce. Using this indicator, for some countries the issue pointed out by critics holds true, while in other countries not at all. For example, in the Mexican zones, the amount of skilled labor only increased from 6,6 percent to 7,2 from 1988 to 1989 (Blanco de Armas & Sadni Jallab, 2002). In other countries, there has been a significant growth in skilled labor force within zones, as reported by the Philippine Economic Zone Authority, the share of workers in production decreased while the share of workers in skill intensive research or design increased. Another example where this is the case is in India, where the focus lies on complex software development and multimedia operations not just on simple data entry activities (FIAS, 2008).

The critical issue, as in general with zone related effects, is if firms hosted within zones differ in the measure of these effects, to companies located in the domestic area. Zones are biased to have little technology transfer and product upgrading effect, due to the provision of duty-free status for companies located within zones. As comparisons with export-oriented domestic firms, that receive similar benefits (FIAS, 2008), suggest, the

difference between the two is not significant and implies that this bias is not justified (UNCTAD, 2003).

2.6.4 Socio economic effects

2.6.4.1 Human Capital Development

A major socio-economic effect that can be expected from zone development, is the development of the labor employed within a zone. This development process, would, in theory, take place through apprenticeship programs, “learning by doing” as well as formal training. Yet, critics argue that mentioned human development effects, are not nearly as large as it would be possible. This can be partly blamed on the fact that, companies hosted in zones often only apply basic production processes, where workers do not need extensive training. Companies located in zones often operate within short timeframes and in this way, have little incentive to invest in this kind of development, therefore limiting the development that does take place to work habits, routine and industrial discipline (FIAS, 2008). Generally, firms mostly view labor as a cost, that is tried to be kept low, rather than a resource that should be developed (UNCTAD, 2003).

For developing countries, however, the effect of human capital development has been rather big and very positive, which holds true particularly in zones that host knowledge intensive or higher value-added firms (Madani, 1999). Proof for this effect was found by Rhee (1990) through a survey of zones in the Dominican Republic, that showed a significant increase in labor productivity in a firm first three years of operation. This development is not only beneficial for the companies employing said labor, but also for the employees themselves as it results in an increased income capacity (Madani, 1999). A number of these employees are also trained in more advanced positions, such as managerial jobs or supervisory position and in this way, enhance entrepreneurial capacity of a country. Training that occurred while working in a zone, has also great value to domestic firms as they are able to hire workers that were previously employed in a special economic zone and thus profit from an already skilled workforce. Another opportunity that zone enterprises represent to domestic firms, is the possibility to learn from the way they operate. This includes managerial and production practices, organizational, marketing and negotiation techniques that

domestic companies can copy from successful firms located within zones (Madani, 1999).

These effects are in theory very positive, but as most zones focus on repetitive low skill requirement operations, learning is often limited to workplace discipline and basic training that takes places during the initial phase of the employment. In the long run these basics are an important acquisition for the worker, as it they are required in every industrial workplace (Madani, 1999).

2.6.4.2 Working Conditions, Labor standards, salary

For as long as zone development has been taking place, opponents have pointed out how zones could negatively impact on labor concerning aspects such as gender, worker rights and work conditions, wage levels and benefits and similar other related factors (FIAS, 2008).

Wage levels throughout zones can be quite different and do often not appear to adapt based on minimum wage laws. Many zone programs used to not be included in a countries minimal wage laws and therefore set wage levels below the domestic minimum. In some countries, the laws were not extended to zones, specifically to attract foreign direct investment as for example in the Dominican Republic before 1993, where exactly this was the case. In other cases, laws are not strictly enforced in zones, resulting in firms paying below minimum, as there will be no legal consequences. For other zones, the exact opposite is true (Madani, 1999). These zones sometimes even pay above market clearing wage, seemingly following the efficiency wage theory, which should result in enhanced productivity and reduced labor turnover rates. The research of Madani (1999), comes to the result, that overall wage levels throughout export processing zones are higher than in the corresponding domestic territories.

Domestic labor laws are often eased in order to provide an easier entrance of firms into zones. This practice for many zone programs resulted in zones that are exempted from domestic labor laws and other zones that are barely, if at all, supervised by the government and laws are not applied either (Madani, 1999).

Other issues that have been recognized to be present in zones include: discouraging of unionization, intimidation of workers, bans on strikes, no surveillance of national labor law within zones (ICFTU, 2003).

Recently, however, there have been positive developments resulting from the work of trade unions, non-governmental organizations and a stricter enforcement by the International Labor Organization. Through the efforts of named organizations many of the issues, such as the anti-union practices, have been reduced and labor policies in special economic zones were improved. As countries generally started to realize that the ability of zones to attract potent investors, such as multinational firms, depends on the productivity of labor and labor law applications, most included conventions from the International Labor Organization in national labor-law (FIAS, 2008). These issues, only affect the minority of zones, in general it can be observed that safety practices and labor policies are better in foreign firms located within zones, than in firms located in domestic territory (FIAS, 2008).

2.6.4.3 Environmental Effects

Environmental impacts, are as in every economic consideration, a highly important aspect, but some in developing countries believe that growth and industrialization are of higher importance than environmental protection. In this way, countries often have weak environmental protection laws or do not enforce these (Madani, 1999).

For example, zones in Mexico have grown too fast for the cities in proximity to supply zones with required waste treatment facilities and infrastructure. This resulted in a rapid increase in pollution levels and became dangerous for the surrounding population and due to a lack of public interest and capacity in environmental monitoring only became more severe (FIAS, 2008).

In contrast to publicly run zones, where many governments do not have the means to enforce environmental protection policies – nor the interest in many cases, the awareness of this issues is growing in the private sector (Madani, 1999). Privately owned and operated zones are often more modern than their public counterpart and feature purpose-built facilities based on the needs of industries. In this way, these zones have a much better environmental record, as they are planned with infrastructure, that is important for environmental protection, already from the

beginning on. Priority on sustainability is also a key issue for investors and in this way important for competitiveness in zone development (FIAS, 2008).

3 Methodology

In the following section the research method will be discussed and the processes of formulation of the research question until the final product will be illustrated and explained.

3.1 Case Study Approach

For a case study, the specific situation in which it is relevant, is when the basic research question that is to be answered, features either “how” or “why” as a keyword and the researcher has no control over the situation that is analyzed (Yin, 2003). A case study can be classified as a qualitative research method, in which a researcher collects in depth information using a variety of sources on a specific event, activity or process (Creswell, 2003). Qualitative research, such as a case study, focuses on collecting open-ended, emerging data with the aim of developing themes from the data and interpreting the meaning of it (Creswell, 2003).

The technical definition of a case study consists of two main factors – firstly the scope of the case study and secondly the way data is collected and analyzed (Yin, 2003). For the first part of the definition, a case study typically is an in-depth investigation of a particular situation in a real world setting where there is no clear border between the phenomenon and the context. The second part focuses on the inquiry of the research, where a case study typically relies on multiple sources of evidence that need to converge in a triangulating form and in this way, relies on pre-defined theoretical framework to guide data collection, resulting in a holistic result (Yin, 2003).

A major drawback in the case study approach is the problem of external validity, where critics argue, that single case studies provide a poor basis for generalizing results (Yin, 2003). Single case studies, however, might still be generalizable through replication logic, where the theory is applied and tested in a similar situation as the one in the case study (Yin, 2003).

3.2 Research Design

3.2.1 Research Logic

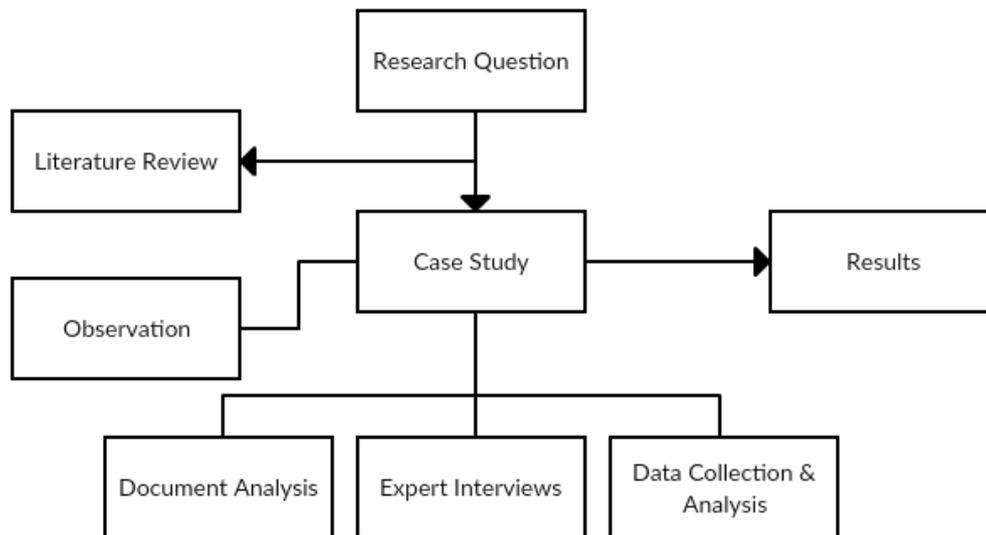


Figure 1 Research Logic

Figure 1 illustrates the research process that was used in this thesis. Logically, the process starts with the formulation of the research question – **“How does a free trade zone positively impact on the Dominican Republic’s Economy”** - and leads to the actual case study. Parallel to the decision on a case study as a research approach the literature review was conducted, providing a deeper understanding of the topic and aiding to achieve a better understanding of the topic. The case study for this research involved different processes where initially the observation helped to grasp the concept of a free zone. Later on, through expert interviews qualitative data and documents were gathered, that were analyzed. Documents included statistical reports that provided economic indicators on performance of free zones, while qualitative data gave insights into not empirical but important processes that cannot be identified through numbers. Finally, the analysis of the gathered information was set into context with the research question.

3.2.2 Thesis Workflow

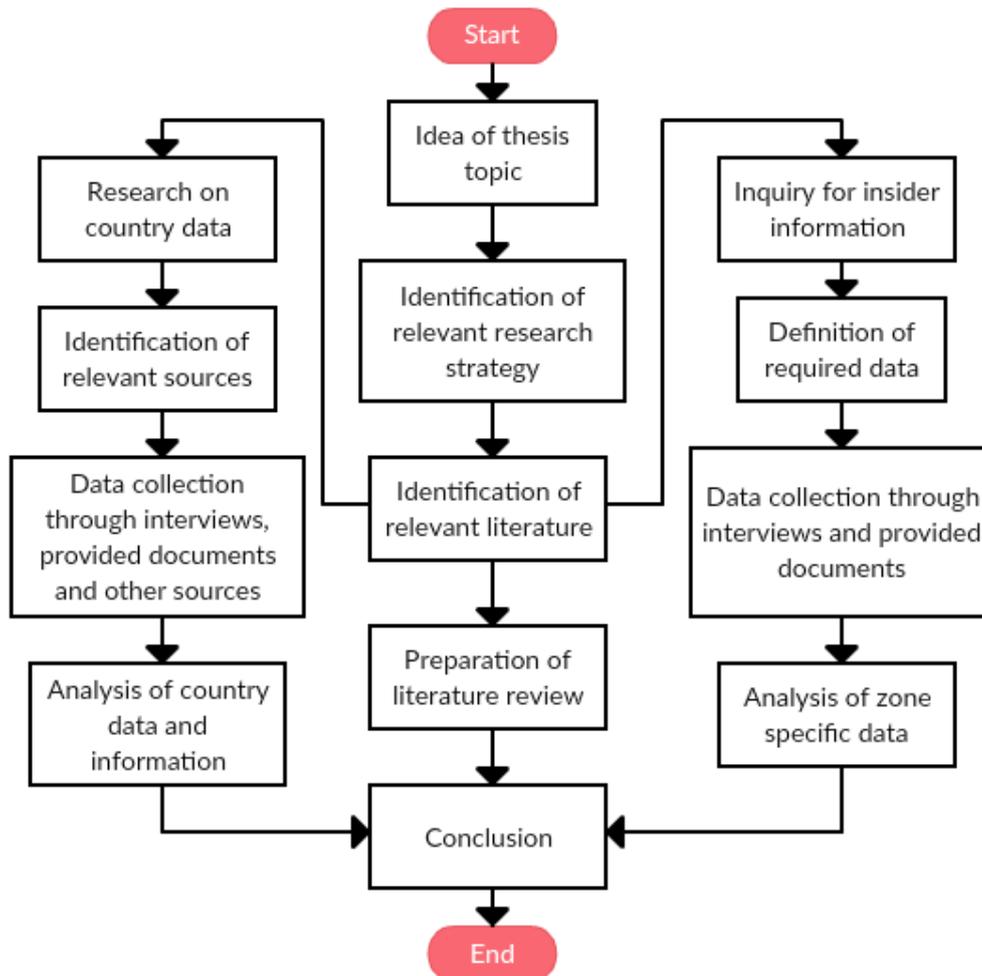


Figure 2 Thesis workflow

The preceding figure describes the workflow of the research in more practical terms. At very beginning of the process of conducting this thesis the idea of the topic was formulated and led to the necessary step of identifying the relevant research approach. After identifying the related literature, an inquiry to receive insider information from experts was made and in parallel research on country relevant data was started. Country relevant data as such are general facts about the country and in-depth information on the free zone sector in the economy. After collection of the required data, a thorough process of analysis and translation from Spanish was applied and resulted in a conclusion within the results section.

4 Case Study: Dominican Republic

4.1 Country Profile of the Dominican Republic

4.1.1 Geographical Profile

The Dominican Republic is located on the eastern part of the island Hispaniola in the Caribbean. It occupies two thirds of the island, while neighboring Haiti on the western part of Hispaniola. The island belongs to the Greater Antilles and is out of Puerto Rico, Cuba and Jamaica the second largest (Worldatlas, 2017). Its climate is classified as tropical maritime with little seasonal temperature changes and rainfall depending on the season (Central Intelligence Agency, 2017). Urban development is most significant in southern coastal regions where also the density of the population is the highest and the capital is located. Smaller population clusters exist inland throughout the island. (Central Intelligence Agency, 2017).

4.1.2 Historical Profile

Hispaniola was discovered and claimed by the Spanish explorer Christopher Columbus in 1492 and became the base of operation for Spain in the Caribbean. The western third of the island was claimed by France in 1697 and became Haiti in 1804 (Central Intelligence Agency, 2017). When in 1821 the rest of Hispaniola, named Santo Domingo, tried to become independent it was conquered by Haiti and ruled by same for 22 years and only gained independence as the Dominican Republic in 1844. (Central Intelligence Agency, 2017) . The DR rejoined the Spanish Empire in 1861 but after a war restored independence in 1865. Years of political instability followed and reached its peak when in 1930 the dictatorship of Rafael Leonidas Trujillo began and lasted for 30 years (Central Intelligence Agency, 2017). In 1962, the first president was elected, but the political situation remained unstable and a civil war took place. Only in 1996 the first competitive election was carried out and have since then been held regularly. The current president is Danilo Medina Sanchez, who is president in his second term (Central Intelligence Agency, 2017).

4.1.3 Societal Profile

The population of the Dominican Republic amounted to 10.649 Million people in 2016, while the population in the capital Santo Domingo was 2.945 Million in 2015 (United Nations Statistics Division, 2016). Spanish is the official language of the country, ever since it was first conquered by Spain (Central Intelligence Agency, 2017). It has a population growth rate of 1.21% ranking it 94 in the world comparison, a maternal mortal rate of 92 deaths per 100 000 live births ranking it 62, a life expectancy for total population of 78.1 years ranking it at 64 worldwide, a 2.1% of the GDP education expenditure placing it on number 163 in the world and a health expenditure of 4.4% of the GDP resulting in rank 130 (Central Intelligence Agency, 2017). In comparison Austria has a population growth rate of 0.51 ranking it 160 worldwide, a maternal mortal rate of 4 deaths per 100 000 live births ranking it 178, a life expectancy of 81.,5 years resulting in place 23, a 5.6% of the GDP education expenditure at rank 44 and a health expenditure of 11.2% of GDP ranking it 11 worldwide (Central Intelligence Agency, 2017).

When comparing the Inequality-adjusted Human Development Index(IHDI)¹ to the Human Development Index(HDI)² for the Dominican Republic, the HDI is 0.722 and the IHDI 0.565 (UNDP, 2016b). This implies a loss of 21.7 when adjusting for societal inequality. In comparison Austria's HDI is 0.893 and the IHDI is 0.815, implying a loss of 8.7 (UNDP, 2016a). Thus, it can be said, inequality is highly present in the Dominican Republic's society and greatly influences certain economic indicators.

The Dominican Republic's indicator for corruption is also relatively high, where it ranks 120 out of 176 assessed countries – Austria in contrast ranks 17 out of 176 (Transparency International, 2016). Countries that achieve a bad rank in this category are defined by poorly functioning public institutions and anti-corruption laws that are in the legislative but are not enforced. The citizens of such countries are victims of bribery and grand scheme theft and face the problem that government institutions

¹ The IHDI, considers inequality in all three dimensions of the HDI by 'discounting' each dimension's average value according to its level of inequality, where the difference in HDI and IHDI can be considered a loss in human development due to inequality (UNDP, 2016b, p. 2).

² "The HDI is a summary measure for assessing progress in three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living" (UNDP, 2016b, p. 2).

do not care about these problems, rendering them helpless to deal with the situation (Transparency International, 2016). Countries that are ranked in higher positions usually feature working political systems and institutions, higher degrees of press freedom and access to information. (Transparency International, 2016)

4.1.4 Economic History and Current Profile

As mentioned earlier, the Dominican Republic has a history of political instability. This political instability also resulted in an instable and poor performing economy. In the 1980s the economy was tightly controlled by the government and worked under inconsistent fiscal, monetary and exchange rate policies, price controls and involved high government ownership of productive assets, which consisted of land, hotels, transportation, manufacturing and more (Operations Evaluation Department, 2003). Exports and investment was greatly hindered by an overvalued peso and high trade barriers; high fiscal deficits that were financed by monetary expansion resulted in high inflation and low domestic savings. This instability caused the total and per capita GDP growth to stagnate between 2 and 0.2 percent per year (Operations Evaluation Department, 2003). Only on January 23, 1985 the exchange rate for the Dominican Peso was reevaluated and corrected to a real exchange rate, until this day the exchange rate was simply set to 1\$=1DOP (International Department, 2017).

The country experienced structural weaknesses in revenues and expenditures and was highly dependent on international trade taxes, resulting in highly volatile government revenues (Operations Evaluation Department, 2003). In addition, a bad tax administration that made it complicated to collect taxes, big increases in public wages and employment, high subsidies and losses of public enterprises weakened the economy more while increasing expenditures. All these factors, resulted in high public debt, inflation that reached almost 80 percent and external debt growing rapidly. To stabilize the economy, the government used official reserves and introduction of a new economic program (Operations Evaluation Department, 2003).

Stabilization and structural reform through the new economic program was carried out by the government and the involvement of the World Bank (Operations Evaluation Department, 2003). Measures to achieve this goal included (Operations Evaluation Department, 2003):

- Tight monetary control
- Removal of distortions in the financial markets
- Fiscal prudence
- Increasing government revenues through raising prices of petroleum products, increasing income from customs through applying a market-based exchange rate for the calculation of import duties and increasing the value-added tax
- Reducing government expenditures by reducing the level of subsidies and application of a daily cash management system for special funds
- Liberalization of interest rates

In the 1970s the Dominican Republic was one of the first countries in the Caribbean to implement a legislative framework for free trade zones hosted a competitive environment that attracted international investment (Operations Evaluation Department, 2003). After introduction of the new economic program, that stabilized the economy greatly, the interest of investors to locate within free trade zones in the Dominican Republic increased significantly and the sector grew substantially. The reform program for the economy successfully helped to diversify exports as the share of sugar and other agricultural products fell to 7 percent while in 1985 it amounted to 45 percent (Operations Evaluation Department, 2003).

Today the country still suffers from income inequality where the poorest half of the population gets less than one-fifth of the GDP while the wealthy 10 percent get 40 percent of the GDP, relatively high unemployment and a big informal sector (Central Intelligence Agency, 2017). The GDP per capita of the Dominican Republic in 2016 amounted to 15.900 USD ranking it on 103 worldwide, while the GDP real growth rate was relatively high with 5.9% ranking it at place 25. In comparison Austria's GDP per capita amounts to 47.900 USD ranking it 29 worldwide and the growth rate is only 1.4% resulting in rank 163, thus implying that the Dominican Republic's economy is growing at a fast pace (Central Intelligence Agency, 2017). This is also visible when looking at the average growth rate from 1995 to 2001 which amounted to 7.7% and made the country's economy one of the fastest growing worldwide (Encyclopedia.com, 2007).

4.2 Laws and Agreements affecting Free Trade Zones

Generally, the country's government encourages foreign investment and aims to position the Dominican Republic as the main destination in the Caribbean for foreign investment (PWC, 2014). Business channels are open to foreign and domestic investors without major restrictions on investment and investors are able to repatriate profits as well as capital. This creates an attractive investment environment (PWC, 2014).

4.2.1 Caribbean Basin Trade Partnership Act (CBTPA)

The CBTPA was a reaction of the United States on the NAFTA with Canada. It aimed to provide Caribbean countries with similar benefits to the NAFTA, offering duty-free entry of goods into NAFTA countries (Farole & Akinci, Special Economic Zones - Progress, Emerging Challenges and Future Directions, 2011). It, however, only applies to a very small percentage of non-textile goods and is mainly concerned with textile imports (U.S. Customs and Border Protection, 2017).

4.2.2 DR-Central American Free Trade Agreement (DR-CAFTA)

The DR-CAFTA was signed by five Central American countries, the Dominican Republic and the United States in 2004 (World Bank, 2005). It was implemented and came into force in March 2007. DR-CAFTA enables easier market access by eliminating tariffs through phasing-out according to specified schedules negotiated based on product and country specifics (World Bank, 2005). The agreement further seeks to provide temporary protection against surges in imports of sensitive agricultural products, through allowing a temporarily tariff increase in the early years of implementation. Parties involved are bound to apply sanitary techniques of the WTO agreement on Sanitary measures to ensure further development of sectors and to meet international standards (World Bank, 2005). It also eliminates nearly all duties on textile or garment imports that were put together using components coming from any of the countries in the agreement (World Bank, 2005).

In addition to the virtual elimination of duties and tariffs, the agreement aims to create equality between domestic and foreign investors and protect them from

discrimination by the government (World Bank, 2005). Important aspects, covered by the investors protection are as follows (Alanis & Natarajathinam, 2009):

- Free transfer of investment funds
- Non-discriminatory treatment relative to domestic investors
- A standard of treatment conforming with international laws
- Enabling investors to bring in key management personnel from abroad

4.2.3 Caribbean Community (CARICOM)

Is a coalition of Caribbean countries with the aim to promote economic integration through the cooperating countries and coordinate foreign affairs and policies. The main focus has been on development planning and coordinating economic policies. It successfully harmonized the Caribbean into a single market economy in 2006, that removed any barriers to trade in 2006 (Encyclopædia Britannica, 2017).

4.2.4 Economic Partnership Agreement (EPA)

The Dominican Republic became a member of the economic partnership agreement between the Caribbean and the EU in 2008 (Farole & Akinci, Special Economic Zones - Progress, Emerging Challenges and Future Directions, 2011). It has similar benefits as the DR-CAFTA, enabling the parties to export to the EU duty and quota free. Hence it is another in this way, the EPA brings enables the Dominican Republic to trade with the EU by removing barriers and facilitating investment flows into the region (European Commission, 2013).

4.3 Free Trade Zones in the Dominican Republic

The Dominican Republic was one of the first countries to implement free zones in the western world and used these economic instruments to successfully diversify exports and boost economic growth (Farole & Akinci, Special Economic Zones - Progress, Emerging Challenges and Future Directions, 2011). Supported by U.S. textile companies locating in the country and trade agreements, free zones were the driving force behind the Dominican Republic's shift away from a commodity based economy. This resulted in a growth in the manufacturing sector from 18 percent of GDP in the 1970s to 30 percent in the 2000s and helped the country to exceed regional as well as global average growth ever since the introduction of free trade zones to the country

(Farole & Akinci, *Special Economic Zones - Progress, Emerging Challenges and Future Directions*, 2011).

In the 1960s, many countries in the Caribbean, including the Dominican Republic, applied import substitutions such as subsidies for domestic production and protection of the domestic market, resulting in an economy that remained specialized in agricultural products and mining (Farole & Akinci, *Special Economic Zones - Progress, Emerging Challenges and Future Directions*, 2011). The nation's first free zone, established in 1969, was not a government action to diversify exports and remove import substations, but rather led by a private investor. Although it was not directed by the government, it successfully made the government realize, that special economic zones could be used for exactly this purpose and hence established the first zone in the early 1970s (Farole & Akinci, *Special Economic Zones - Progress, Emerging Challenges and Future Directions*, 2011). The government's aims of implementing the free zone approach was mainly to attract foreign direct investment, generate employment and foster technology and knowledge transfer.

During the initial years of the free zone program, growth remained relatively small which can be accounted to zones remaining very delimited in the sense of physical as wells as a policy perspective. This resulted in little job creation, where only 10 000 jobs were created until the early 1980s (Farole & Akinci, *Special Economic Zones - Progress, Emerging Challenges and Future Directions*, 2011).

When the government began a restructuring process in the early 1980s, it liberalized the economy and began promoting nontraditional exports, by expanding the free zone program, which accelerated free zone development in the late 1980's. In this period FDI inflow grew rapidly, mainly coming from the United States (Farole & Akinci, *Special Economic Zones - Progress, Emerging Challenges and Future Directions*, 2011). One main factor that makes the Dominican Republic so attractive to companies from the U.S., was the U.S. AID program, which provided companies that shifted manufacturing into free zones in another country with high financial assistance packages (Tiefenbrunn, 2013). In the period from 1983 to 1993 the U.S. granted 69 million USD to private groups in Central America, including the Dominican Republic, that promoted the investment benefits of free zones for U.S. based companies (Tiefenbrunn, 2013). In the same period, the program gave out more than 250 million

USD in loans to companies that placed investments in any of these countries and boosted FDI greatly (Tiefenbrunn, 2013).

Other important factors contributing to the attraction of FDI included the following (Farole & Akinci, Special Economic Zones - Progress, Emerging Challenges and Future Directions, 2011):

- Devaluation of the peso – resulted in a competitive exchange rate (International Department, 2017)
- The existence of a significant wage arbitrage opportunity between the Dominican Republic and the United States
- Trade preferences – where the CBI, a free trade agreement between the U.S. and Caribbean countries (Caribbean Basin Initiative) signed in 1984, allowed duty-free exchange of goods between these countries
- Fiscal incentives – the provision of free zone typical incentives, like a set of exemptions on taxes, import duties and property taxes. In the Dominican Republic tax exemptions are valid for 15 years and can in special cases be extended to up to 20 years. Companies hosted within zones are required to export at least 80 percent, with exceptions for products where more than 25 percent of value come from domestic inputs
- The existence of a strong and flexible governing body for free zones, the national council of free zones – CNFZE. The council was established in 1978 and reports directly to the president. It is governed by a board of directors that consists to 50 percent of private sector representatives.

4.4 Performance of free zones in the Dominican Republic

As can be seen in table 1, there has been a steady growth in zone number and companies located within zones, with a slight drop from 2004 to 2010 where the number of zones reduced from 58 in 2004 to only 47 in 2010 and the number of companies reduced from 569 to 525. The impact on number of zones and companies is not as significant as when looking at the number of employees which reduced from 189 853 in 2004 to 121 001 in 2010, indicating a loss in employment of more than 60 000 jobs. This drop is to be blamed on the competition with the Asian textile market, where the Dominican Republic incurred big losses when companies relocated

to the cheaper markets. Only after DR-CAFTA³ was implemented, the Dominican Republic was able to successfully attract textile industry companies again and recover in the textile export sector (I2, 2017). This decline led to the general realization that the sector depended too heavily on the textile industry, which is, due to its low margins, very vulnerable to worldwide price and labor conditions. In order to ensure a sustainable future for the general free zone sector, efforts were put into attracting higher margin companies coming from a different industry than textile (I2, 2017), where total exports in 2015 with 5 512,30 mill USD were higher than in 2004 with 4 685,24 mill USD, while the textile part of exports was only about half as big as in 2004.

4.4.1 General free zone overview

Year	Number of FTZ's	Companies	Employees	Exports in Mill. USD	Textil Export in Mill. USD	Weekly salary in DOP	
						Unskilled	Skilled
1996	36	436	164 639	3 107,30	1 753,50	576,92	1 257,00
1997	40	446	182 174	3 596,40	2 185,10	634,27	1 441,12
1998	43	496	195 193	4 100,00	2 348,90	638,32	1 556,90
1999	44	484	189 458	4 331,50	2 393,10	701,21	1 587,22
2000	46	481	195 262	4 770,60	2 555,40	716,51	1 629,85
2001	51	512	175 078	4 481,60	2 314,40	775,49	1 662,93
2002	53	520	170 833	4 317,30	2 226,80	786,56	1 671,53
2003	54	531	173 367	4 406,76	2 196,40	961,34	2 010,79
2004	58	569	189 853	4 685,24	2 120,60	1 131,25	2 539,82
2005	57	556	154 781	4 749,65	1 904,60	1 347,09	2 702,67
2006	56	555	148 411	4 678,60	1 734,40	1 465,19	3 009,97
2007	53	526	128 002	4 525,22	1 366,90	1 480,37	3 127,22
2008	48	525	124 517	4 354,10	1 165,70	1 652,80	3 533,22
2009	47	553	112 618	3 793,50	933,5	1 819,00	3 689,56
2010	48	555	121 001	4 217,60	964,2	1 829,03	3 841,64
2011	51	578	125 117	4 884,50	1 295,60	1 967,15	3 892,63
2012	53	584	134 226	4 940,10	1 280,60	2 175,88	4 204,14
2013	55	602	144 383	4 950,50	1 219,20	2 352,49	4 483,04
2014	60	614	153 342	5 261,70	1 241,90	2 508,76	4 773,39
2015	65	630	161 257	5 512,30	1 288,90	2 690,90	5 134,80

Table 1: General overview of zone development (CNFZE, 2015)

Overall, compared to 1996, the number of free trade zones almost doubled from 36 to 65 and the number of companies operating increased by almost 200. When looking

³ DR-Central American Free Trade Agreement

at employment, there was no growth although the number of companies and parks increased. This is most likely the result of the shift to more advanced production process, higher margin industries and developments in technology that require less workers while still producing a higher output. Although the creation of direct employment is not that high, in the Dominican Republic one job generated by a free zone, creates three indirect jobs⁴ (I2, 2017). Taking this effect into consideration, in 2015 the overall effect of employment is 161 257 direct jobs and 483 771 indirect jobs, so 645 028. Hence in 2015 the sector accounted for employment of around 12.62% of the total labor force (Central Intelligence Agency, 2017). When looking at salary development it is visible that in 2015 workers earned almost five times more than in 1996, while skilled workers earned about twice as much as unskilled workers.

Type of Administration	Number per year		
	2000	2014	2015
Private	26	42	47
Public	18	15	15
Mixed	2	3	3

Table 3: FTZ development per type of administration (CNFZE, 2015)

Region	Number per year		
	2000	2014	2015
North	19	28	32
South	11	10	10
East	9	7	7
National District	7	15	16

Table 2: FTZ development per region (CNFZE, 2015)

Region	Number per year	
	2000	2015
North	214	304
East	101	79
South	75	94
National District	91	153

Table 4: Amount of companies per region (CNFZE, 2015)

When looking on the distribution of FTZs, in table 2, throughout the Dominican Republic's regions, the south and east basically stagnated with where both regions had a negative zone growth. The number of companies, table 4, in zones in the south, however, increased from 2000 with 75 zones to 94 zones in 2015. For the north and the national district, there was constant growth in both, the number of zones and the number companies. The reasons for this can be attributed to better infrastructure development in the national district, as it basically surrounds the capital, Santo

⁴ An indirect job, is a job that is not directly related to the sector, but is generated because of employment in the free zone sector e.g. a woman that is employed in the sector employs a housekeeper while being at work (I2, 2017)

Domingo. Growth in the north can be attributed to the amount of ports located on the northern coast of the country and the easier access to shipment routes from ports located in the north.

Table 3 compares the number of zones per type of administration, which are private, public and a mixed – meaning that the ownership and administration of the zone are shared by private zone operators and the government. From 2000 to 2015 the number of private free zones increased from 26 to 47, while the number of public zones decreased from 18 to 15 and the number of mixed zones increased from 2 to 3. The effects of this increase in private zones can be assumed to be positive, as private zones usually cater to higher value companies, implement modern sustainability and waste management concepts, provide the employees with state of the art work environments and put higher efforts into overall zone development when compared to government administered zones (FIAS, 2008). Logically, more privately developed zones also mean less costs for the government. A decrease in public costs coupled with the attraction of higher value companies implies a strong positive impact, as higher value companies tend to generate higher FDI, more human capital development as well as more technology and knowledge transfer.

Sector	Number per year		
	2000	2014	2015
services(callcenter etc)	59	125	131
textile	275	110	98
tobacco	27	64	69
agroindustrial products	3	50	55
commercial products	0	45	47
footwear	18	30	31
medical	13	28	30
packaging	7	22	22
electric	16	21	22
jewelry	14	18	16
other	49	101	109

Table 5: Development of companies per sector (CNFZE, 2015)

When comparing the number of companies per sector, in table 5, it is evident that the free zone sector in the Dominican Republic managed to diversify the companies hosted within zones and hence exports. While initially the textile sector was by far the biggest sector in the program, it has declined from 275 companies in 2000 to only 98 in 2015 and the service sector has outgrown textiles with 131 companies in free zones in 2015. This is an important development insofar as the textile sector only requires very basic skills and mainly employed low skill workers that underwent poor to none development processes. The service sector on the other hand, requires companies to train employees in different areas, that are relevant to provide the service and in this way, creates a big learning and human capital development effect. Examples for companies falling into the service sector are call-centers for various purposes, software development, data processing or hosting of data warehousing and IT hardware outsourcing. Overall it is also visible that there are more companies operating throughout every sector than in 2000, only the number in the textile sector decreased. Two important sectors are the sector of tobacco and agroindustrial products as it uses almost only inputs from the domestic economy and processes the inputs within the zones, creating backward linkages.

4.4.2 Contribution of zones to GDP in Mill Dominican Peso

The following table shows the contribution of free zones to the GDP of the Dominican Republic. It can be observed that in the period from 1996 until 2003 the contribution grew steadily where it peaked with 7,5% in 2003, but declined from then on. This can be blamed on the overall economy growth that due the efforts of more liberalization, an increased focus on fostering growth of the service and tourism sector, and restructuring, was boosted significantly, while the growth in free zones was not as significant (I2, 2017).

Year	GDP	FTZs	Contribution
1996	233 833,30	9 380,50	4,0%
1997	274 423,90	11 510,80	4,2%
1998	311 282,80	15 159,60	4,9%
1999	343 745,30	16 728,80	4,9%
2000	388 301,90	19 990,30	5,1%
2001	415 520,90	21 026,40	5,1%
2002	463 624,30	25 249,90	5,4%
2003	617 988,90	46 076,50	7,5%
2004	909 036,80	66 405,10	7,3%
2005	1 020 002,00	49 395,80	4,8%
2006	1 189 801,90	53 296,30	4,5%
2007	1 455 253,30	58 296,40	4,0%
2008	1 656 961,70	57 838,60	3,5%
2009	1 729 468,40	55 845,50	3,2%
2010	1 978 851,90	60 480,50	3,1%
2011	2 218 428,80	72 916,60	3,3%
2012	2 377 503,70	76 318,00	3,2%
2013	2 558 585,60	81 531,70	3,2%
2014	2 786 229,70	87 726,60	3,1%
2015	3 023 116,10	94 587,70	3,1%

Table 6: Contribution of free zones to the GDP in Mill DOP (CNFZE, 2015)

4.4.3 Export and Investment(FDI)

Country	Number per year	
	2000	2015
Dominican Republic	166	247
U.S	228	228
Canada	2	13
Puerto Rico	8	11
Netherlands	3	11
Spain	5	10
Germany	1	9
South Korea	27	9
Switzerland	2	10
United Kingdom	1	8
Italy	5	8
Venezuela	0	8
Others	33	58

Table 7: Development of origin of countries within FTZs (CNFZE, 2015)

Table 7 shows the number of companies per main region of origin within the Dominican Republic’s free trade zones. Based on this evidence, it can be said that the

sector managed to attract more countries overall, while the United States remained the most present country. It is important to mention that the increase in number of companies with the Dominican Republic as origin, is a result of private free zone operators creating companies designated to specific purposes within zones (I2, 2017). Such companies are for example warehousing, waste management and food provision within zones. Hence the growth in private sector zones also increased the amount of companies from the Dominican Republic located within zones.

	2000	2015
Investment amount	\$ 1 222 372 671,85	\$ 4 043 149 657,40

Table 8: Investment generated zones (CNFZE, 2015)

Table 8 compares the amount of investment from 2000 with 2015, where it can be seen that the overall investment is almost 4 times higher than in 2000. This also demonstrates that the country successfully managed to attract higher value companies, investing more money into their operation foundation.

Sector Name	2000	2015
Medical	\$ 95 986 251,00	\$ 898 588 987,80
Textile	\$ 554 865 006,26	\$ 849 389 283,90
Tabaco	\$ 169 193 373,96	\$ 756 426 767,40
Services	\$ 63 800 784,00	\$ 338 966 002,60
Footwear	\$ 77 340 523,00	\$ 239 002 937,10
Agroindustrial Products	\$ 20 562 479,00	\$ 226 287 700,40
electronics	\$ 124 372 414,00	\$ 125 128 077,90
Metals	\$ 13 100 878,00	\$ 31 114 855,70
Alcohol	\$ -	\$ 264 060 921,70
Plastics	\$ 5 541 118,00	\$ 108 732 279,20
Packaging	\$ 6 045 037,00	\$ 84 551 324,30
Commercial Products	\$ -	\$ 63 271 535,10
others	\$ 91 564 807,63	\$ 57 628 984,30

Table 9: Investment per sector (CNFZE, 2015)

When looking at investment per sector, a more in-depth analysis of investment development is possible. There was a general growth and two sectors have been introduced to foster investment. The increase in medical products is especially important, as it requires well trained employees and purpose-built facilities that are hard to relocate. This sector is an example of a sector than cannot easily relocate to other countries and is also not as vulnerable to world market price changes, as the

margins on products are higher. As in comparison to the textile sector, the sector of medical products provides the Dominican Republic with a stable source of FDI.

Country	2000	2015
US	\$747 107 689,00	\$1 816 382 041,80
DR	\$311 773 575,00	\$936 413 674,50
Can	\$3 203 345,00	\$312 649 763,00
UK	\$1 457 483,00	\$214 059 705,80
Denmark	\$7 920 000,00	\$115 415 688,30
Switzerland	\$1 584 000,00	\$95 534 442,60
Germany	\$3 206 424,00	\$95 171 616,80
Brazil	-	\$83 001 262,00
Sweden	-	\$60 729 239,00
France	\$4 188 174,00	\$53 295 695,20
Spain	\$4 601 906,00	\$47 638 179,50
Venezuela	-	\$37 651 744,30
Other	\$137 330 075,85	\$175 206 604,60

Table 10: Investment per countries (CNFZE, 2015)

The comparison of investment by countries is another aspect where it is visible that the free zone sector of the Dominican Republic managed to not only diversify exports, but also successfully attracted a broader range of investors and overall more investment. It is clearly evident that the United States are the main investor in the country, which can be attributed to the proximity of the country as well as the number of free trade agreements between both. When comparing 2000 and 2015, there is a significant increase in every country's investment. The increase of investment from the Dominican Republic itself, is again the result of the private zone operators with the companies they established and that are involved in operating and administering zones (I2, 2017).

year	National Exp. In mill USD	change %	FTZ Export	change %	Total Export in mill USD	Contribution of FTZ
1996	945,50		3 107,30		4 052,80	76,7%
1997	1 017,30	7,6%	3 596,40	15,7%	4 613,70	78,0%
1998	880,30	-13,5%	4 100,00	14,0%	4 980,30	82,3%
1999	805,20	-8,5%	4 331,50	5,6%	5 136,70	84,3%
2000	966,10	20,0%	4 770,60	10,1%	5 736,70	83,2%
2001	794,70	-17,7%	4 481,60	-6,1%	5 276,30	84,9%
2002	847,70	6,7%	4 317,30	-3,7%	5 165,00	83,6%
2003	1 064,00	25,5%	4 406,80	2,1%	5 470,80	80,6%
2004	1 250,70	17,5%	4 685,20	6,3%	5 935,90	78,9%
2005	1 395,10	11,5%	4 749,70	1,4%	6 144,80	77,3%
2006	1 931,40	38,4%	4 678,60	-1,5%	6 610,00	70,8%
2007	2 635,10	36,4%	4 525,20	-3,3%	7 160,30	63,2%
2008	2 393,90	-9,2%	4 354,10	-3,8%	6 748,00	64,5%
2009	1 689,30	-29,4%	3 793,50	-12,9%	5 482,80	69,2%
2010	2 536,10	50,1%	4 217,60	11,2%	6 753,70	62,4%
2011	3 727,80	47,0%	4 884,50	15,8%	8 612,30	56,7%
2012	4 129,00	10,8%	4 940,10	1,1%	9 069,10	54,5%
2013	4 473,80	8,4%	4 950,50	0,2%	9 424,30	52,5%
2014	4 637,20	3,7%	5 261,70	6,3%	9 898,90	53,2%
2015	4 011,00	-13,5%	5 512,30	4,8%	9 523,30	57,9%

Table 11: Contribution of FTZ to national exports (CNFZE, 2015)

While the impact of free trade zones in the Dominican Republic on the nation's GDP is not very high (Table 6, showing a maximum of 7,5% in 2003), the impact on the nation's export is of great significance. Table 11 shows a peak of contribution to exports in 2001, where 84,9% of exports came from free zones. Which means, that almost all exports of the country were attributed to free trade zones. Although since 2001 the contribution declined, the free zone sector constantly amounted for more than half of the nation's exports and in 2015 a small increase can be observed.

Table 12 shows the number of companies that exported to a specific country. The data clearly indicates, that in 2000 the country that by far the most companies exported products to was the United States. Looking at the development of exporting countries, it is clear that the United States are still the location that most firms export to, but it can also be observed that there was a successful diversification in export locations. Many countries that in 2000 were not a location of exports, have been added to the range of countries and provide the country with a far more diverse export market.

Country	2000	2014	2015
United States	413	376	583
Dominican Republic	50	82	71
Puerto Rico	36	47	50
Canada	45	46	47
Germany	21	45	55
Spain	15	44	56
Haití	0	40	49
Mexico	4	32	26
China	3	28	30
France	13	27	23
Netherlands	6	27	34
Italy	8	21	27
Honduras	2	17	13
Panama	0	16	27
Nicaragua	0	15	15
Brazil	0	13	6
United Kingdom	20	12	16
Venezuela	5	12	11
Jamaica	0	11	11
Chile	0	11	16
Belgium	0	11	7
Japan	9	10	11
Colombia	0	9	7
Switzerland	5	8	15
Costa Rica	5	8	9
Argentina	0	6	2
Russia	0	6	3
El Salvador	0	5	3
India	0	4	7
South Korea	3	4	3
Taiwan	0	4	2
Australia	0	4	3
Guatemala	5	3	8
Portugal	0	3	5
Ecuador	0	2	1
Guadalupe	0	1	1
Others	36	130	111

Table 12: Number of companies exporting to specific countries (CNFZE, 2015)

The balance of imports to exports of free trade zones in table 13, shows that the value added to goods processed or assembled in free zones has been relatively high

throughout the years. Since higher value companies started to come in from 2004 onwards, there has been a slight increase in the value added (I2, 2017).

Year	Export	Import	Difference
1996	3 107,30	2 146,30	961,00
1997	3 596,40	2 416,70	1 179,70
1998	4 100,00	2 700,70	1 399,30
1999	4 331,50	2 834,30	1 497,20
2000	4 770,60	3 062,50	1 708,10
2001	4 481,60	2 826,40	1 655,20
2002	4 317,30	2 600,30	1 717,00
2003	4 406,80	2 530,90	1 875,90
2004	4 685,20	2 519,90	2 165,30
2005	4 749,70	2 503,20	2 246,50
2006	4 678,60	2 615,00	2 063,60
2007	4 525,20	2 499,70	2 025,50
2008	4 354,10	2 428,80	1 925,30
2009	3 793,50	2 349,70	1 443,80
2010	4 217,60	2 463,80	1 753,80
2011	4 884,50	2 955,40	1 929,10
2012	4 940,10	2 873,90	2 066,20
2013	4 950,50	3 111,10	1 839,40
2014	5 261,70	3 424,00	1 837,70
2015	5 512,30	3 498,00	2 014,30

Table 13: Import export balance of free zones (CNFZE, 2015)

Country	2000	2015
USA	409	312
Domrep	60	164
China	29	125
Mexico	14	48
Brasil	12	36
Germany	11	31
Nicaragua	2	18
Italy	18	21
Colombia	0	18
South Korea	33	17
Ecuador	5	27
Others	79	453

Table 14: Number of companies importing raw materials per country (CNFZE, 2015)

When comparing the number of companies importing raw materials per country of origin, it is also evident that a diversification took place. Less materials from the

United States is brought in while all number of companies for all other countries has significantly increased. More material originates from the host country, the Dominican Republic, which can be attributed to the creation of stronger backward linkages and is positive development for the nation as a whole.

4.4.4 Local spending of FTZ companies

Year	Energy	Social Security	Infotep	Water	Communications
2015	90 304 986,16	149 110 047,98	5 631 679,66	3 672 568,32	13 219 532,72
2000	30 561 329,24	25 108 711,60	3 423 030,75	1 719 025,72	-

Table 15: Running expenses of companies within free trade zones in Dominican Pesos (CNFZE, 2015)

Table 15 shows the development of accumulated spending of companies within free trade zones on services such as energy, social security, infotep – which is a payment to a government fund dedicated to train and develop employees required by law, water and communications, in Dominican Peso. Especially payments for energy and social security increased by up to ten times compared to the year 2000. Spending on communications in 2000 was so little, it was not statistically measured, but in 2015 amounted to almost 595 million pesos (in USD 13,21 Million – average exchange rate in 2015 was 1 USD = 45 DOP (International Department, 2017)). There were immense increases in spending throughout all service sectors. This gives local service providers and the government important resources to develop infrastructure, that without free zones would not be available.

Year	Spending in Mill USD	Year	Spending in Mill USD
1996	545,00	2006	973,70
1997	701,00	2007	1 010,90
1998	826,50	2008	954,30
1999	887,30	2009	959,00
2000	1 018,60	2010	1 123,00
2001	977,90	2011	1 163,50
2002	886,50	2012	1 298,20
2003	810,80	2013	1 326,00
2004	863,40	2014	1 368,10
2005	1 005,40	2015	1 434,50

Table 16: Local Spending of FTZ companies in Mill USD (CNFZE, 2015)

In table 16, the development of accumulated local spending by companies in free trade zones in million USD is depicted. Local spending includes spending on rent,

salaries and spending on materials bought from the domestic economy as well as running expenses from table 15. Local spending has increased steadily and has reached a high in 2015 with 1 434,5 Mill USD. It provides a steady inflow towards counted as FDI for the country (I2, 2017).

4.4.5 Human Capital Development

Employee Distribution – Excluding employees of zone operators

	male	female	total	share of total
Low skilled	51 651	64 859	116 510	73%
High skilled	18 929	9 687	28 616	18%
Administrative	7 230	6 357	13 587	9%
Total	77 810	80 903	158 713	100%

Table 17: Employment distribution per type of job and gender (CNFZE, 2015)

Employment distribution within zone (table 17) is highly centered on low skilled work, which are basic assembly processes or similar work, and amounts for 73% of total employment in zones. High skilled employees only amount for 18% percent of jobs and administrative jobs only account for 9% percent. It can be logically argued that there are fewer jobs in the administrative departments as it is a general occurrence of administration departments to be smaller than manufacturing departments. It can be observed, that in the low skilled more women are employed and in the high skilled almost twice as many men. For administrative activities, the distribution is more equal.

In table 18, the number of infotep trainings in the sector of free zones is compared. Data is only available from 2004 onwards, but shows there has been average of 2 168 trainings conducted per year which resulted in average of 39 254 employees being trained. Looking at the sum, trainings since 2004 resulted in 471 052 employees that were trained, which is considerable effort that is put in employee development. Infotep trainings for employees go beyond only job relevant development, but also educates employees in terms of sustainability, personal finances and more (I3, 2017). Hence this human capital development does not only prove beneficial for companies, but is of great value to the society itself, as this results in spillover effects to the domestic country, with better skilled labor being available in the domestic workforce.

Year	trainings	employees trained
2015	2 810	51 348
2014	2 891	45 912
2013	2 602	44 025
2012	2 035	36 033
2011	1 948	36 290
2010	1 560	29 119
2009	1 458	27 598
2008	1 420	25 555
2007	2 172	44 781
2006	2 190	40 854
2005	2 282	40 073
2004	2 649	49 464
Sum	26 017	471 052
Average	2 168	39 254

Table 18: Infotep trainings conducted in the sector (CNFZE, 2015)

4.4.6 Value generated by projects approved in 2015

Year	Companies	Employees	Amount in USD
2015	79	8 565	58 054 411,36

Table 19: Value generate in terms of new companies, employees and investment by approved projects in 2015 (CNFZE, 2015)

Lastly, in table 19, the projected value generated by projects approved in the year 2015 is shown. In 2015, 79 new companies were approved to move into free zones leading to future investment of about 58 Mill USD and generating 8 565 new jobs. Incorporating the direct to indirect job creation ratio, 1:3, this will lead to overall 34 260 jobs and shows that growth in the sector in terms employment and FDI can be expected for the future.

4.5 Example of a zone: Las Americas Free Zone

4.5.1 Overview

The Las Americas Free Zone, or industrial free zone, is a family run business that was founded by Luis Manuel Pellerano in 1989. It can be classified as a private free zone and as such offers many benefits over public free zones. As of 2015, the operators of the zone employed 177 people and own several companies, that provide services within the park (I1, 2016). Las Americas is located close to the south coast of the country in the national district, relatively close to the capital Santo Domingo and in proximity of ports and airports (I1, 2016).

The free zone provides a safe and stable environment for companies to operate in, by having a dedicated line to the power grid, a dedicated pipe to the national water supply as well as a dedicated connection to a telecommunications provider. All pipes and lines are redundant in terms of failure in any one circuit (I3, 2017). Providing an environment like this might not seem necessary when being used to western standards, but as a country that has regular energy outages as well as problems with the water supply, in order to provide a stable work environment for hosted companies it is critical for a successful operation (I3, 2017). Average national downtime for energy is 6-8 hours per month while within the zone it is one hour and backup generators help to reduce this time even further. The zone has a well and several water storage facilities within the zone in case of water shortages, companies can be supplied through this backup water source. All these measures help the zone to attract high quality customers and in this way, generate higher and more stable FDI.

Year	Developed m ²	Used m ²	# of companies
2000	1 200 000,00	1 200 000,00	19
2001	1 193 592,00	1 174 335,00	20
2002	1 136 891,00	1 030 903,00	21
2003	1 136 891,00	1 136 891,00	18
2004	1 390 819,85	1 390 819,85	22
2005	1 406 078,05	1 363 211,42	23
2006	1 433 942,56	1 398 034,37	22
2007	1 509 756,37	1 509 756,37	23
2008	1 556 161,04	1 490 595,62	23
2009	1 625 617,59	1 552 422,89	22
2010	1 625 617,59	1 178 022,88	21
2011	1 625 617,59	1 307 209,33	25
2012	1 628 263,92	1 240 384,81	23
2013	1 657 963,19	1 353 201,78	24
2014	1 699 062,37	1 554 553,83	24
2015	1 638 117,54	1 638 117,54	25

Table 20: Areal Development of the LAFZ (I2, 2015)

Since 2000 there was an ongoing development within the zone where initially only 1,2 square kilometers were developed and used, in 2015 1,64 square kilometers have been developed and used. In terms of development and usage of areal, it is evident that there was ongoing land development, although not all was used. This is due to

the zone trying to be prepared for new companies coming in having land ready to use (I2, 2017). When looking at the number of companies there were 19 in 2000 with ongoing fluctuations but overall a growth to 25 in 2015. Hence the zone has been successful in attracting new investors. The zone occupies a total area of around 8 square kilometers and still has big potential to grow (I2, 2017).

The zone has focused on attracting higher margin companies ever since and only hosted a low number of companies relying on low skill work, like the textile industry. This provided the zone with a high stability of investment inflows and number of companies, as mostly low skill intensive companies tend to relocate rather quickly based on price changes (I2, 2017).

4.5.2 Investment in the zone

Year	Amount in USD	Year	Amount in USD
2000	106 989 708,01	2008	368 203 479,70
2001	129 646 562,00	2009	410 015 315,93
2002	135 824 379,24	2010	393 617 488,56
2003	139 389 061,73	2011	357 020 442,40
2004	185 309 783,63	2012	342 177 049,43
2005	181 067 451,14	2013	405 978 514,93
2006	197 337 262,99	2014	356 027 384,70
2007	184 298 723,89	2015	333 853 320,50

Table 21: Investment in LAFZ (I2, 2015)

The investment inflows into the Las Americas free zone have been steady and growing since the year 2000 and, when comparing 2000 and 2015 have tripled from around 107 Mill USD to around 334 Mill USD. This steady growth and stability of inflows can also be attributed to the type of companies hosted within the zone, which are mainly higher value companies that generate more investment (I2, 2017).

Year	Companies	Employees	Amount in USD
2015	4	1120	9 890 365,72

Table 22: Value generate in terms of new companies, employees and investment by approved projects in 2015 in LAFZ (I2, 2015)

In 2015, there were four new companies approved to locate within the Las Americas free zone, where the projected amount of investment generated is almost 10 Mill USD and the amount of new jobs generated comes to 1 120. Compared to the national

amount of projected investment, 58 Mill USD the zone alone accounts for 17,2% percent of investment generated through newly approved projects, demonstrating the ability to attract high quality FDI.

4.5.3 Employment

Year	Total	Male	Labor ⁵	Technical	Administrative	Female	Labor	Technical	Administrative
2000	10 235	3 827	3 052	349	426	6 408	5 721	206	481
2001	9 036	3 357	2 651	371	335	5 679	5 035	364	280
2002	9 553	3 528	2 854	291	383	6 025	5 500	185	340
2003	10 136	4 096	3 420	288	388	6 040	5 335	373	332
2004	11 165	4 653	3 689	549	415	6 512	5 860	320	332
2005	10 944	4 722	3 604	737	381	6 222	5 611	298	313
2006	11 237	4 634	3 540	719	375	6 603	5 816	421	366
2007	11 310	5 116	3 713	735	668	6 194	5 330	443	421
2008	13 089	5 321	4 070	619	632	7 768	6 757	574	437
2009	11 009	3 716	2 445	712	559	7 293	6 296	645	352
2010	10 910	4 256	2 991	824	441	6 654	5 701	623	330
2011	11 001	3 733	2 402	836	495	7 268	6 449	458	361
2012	11 574	3 771	2 385	906	480	7 803	6 893	540	370
2013	11 286	3 668	2 270	926	472	7 618	6 753	386	479
2014	12 149	3 814	2 473	729	612	8 335	7 449	402	484
2015	13 019	3 973	2 647	839	487	9 046	7 918	611	517

Table 23: Employment in LAFZ (I2, 2015)

When looking at employment within the zone, the employment has remained steady and grew from 10 235 in 2000 to 13 019 in 2015. While male employment has basically stagnated at close to 4 000, the employment of women as increased from 6 408 in 2000 to 9 046 in 2015, hence more than twice as many women as men are employed in the zone. It can be observed that more men are employed in higher positions compared to women but the difference is small. When considering the direct to indirect employment generation ratio, 1:3, the zone generated more than 50 000 jobs in 2015 (I2, 2017).

⁵ Labor standing for low skilled workforce

Level	labor	technical
Las Americas	2689,76	4865,58
National	2690,90	5134,80

Table 24: Weekly salary comparison, National to LAFZ (I2, 2015)

The Las Americas free zone salary levels lie a little under national average, but this is due to underlying principles to motivate employees (I3, 2017). As the nations development as a whole is low, crime rates are high, public transport, education, insurance and other public sectors are poorly operating. This poses difficulties for employers and employees as well. People generally tend to not be on time, have bad manners and have little to no work place discipline. Due to poorly operating public transport employees have a hard time getting to and from work and on the way to bus stops, risk getting robbed. People get bad treatments at doctors and hospitals cause the health care systems are poorly developed and health conditions tend to be bad (I3, 2017). Hence the free zone’s approach is to offer a generous package of incentives to their employees that are aimed to address these problems, while paying a little less in terms of salary. This approach will be discussed in more detail in section 4.5.5., but in general the response of employees has been positive and employees have a high workplace motivation (I3, 2017).

4.5.4 Human Capital Development

In addition to training that occurs within the companies itself, the zone puts an emphasis on the infotep training initiative. The training is available to everybody employed in the country, but due to problems with getting off time from work, difficulties to get to a training-center and general lack of awareness, only very few people ever make use of the option (I3, 2017). To avoid these problems the zone operators invested into building a dedicated training center within the zone, that in cooperation with the government that manages the infotep fund is used to provide trainings on-site. In addition, the operators negotiated with the companies located within the zone to enable employees to get time off work, that is not deducted from holiday, in order to be able to attend trainings (I3, 2017). As companies realized that this was only beneficial for operation, these negotiations proved successful (I3, 2017). By also raising awareness of this possibility within the zone, there was a steady number of employees attending the training programs, as depicted in table 24. On

average, there were 4 992 employees trained per year, and since 2004 almost 60 000 employees underwent training initiatives.

Year	Trainings	Employees
2004	139	6 146
2005	247	4 918
2006	247	6 729
2007	190	3 991
2008	122	2 286
2009	168	4 235
2010	162	4 421
2011	233	5 074
2012	194	4344
2013	248	4612
2014	276	6 144
2015	321	6998
Sum	2547	59898
Average	212	4992

Table 25: Infotep trainings within LAFZ (I2, 2015)

4.5.5 Regional Development

In terms of regional development, there are several aspects in which the park helped to develop its surroundings. Initially there were small, underdeveloped communities, located in close proximity around the park (I3, 2017). These communities mostly occupied the land unlawfully, as it was publicly owned land. In most of these communities there were no streets, there were no connections to the power grid, water supply was a major issue and high crime rates were normal (I3, 2017). After the setup of the park, the operators decided to invest in and develop the surrounding area and worked together with government to ensure sustainable progress was made. The communities were recognized by law and turned into towns, with new streets, access to energy and water supply. This led to a fast decrease in crime rates profited the free zone and the locals (I3, 2017). The free zone invested heavily into development of connecting streets to the national highway and other infrastructure which in turn helped the communities to grow and flourish. As of now, many of the locals are also employees of the park (I3, 2017).

4.5.6 Corporate Social Responsibility⁶

The Las Americas free zone places great value on the development of employees not only in terms of workplace education, but also general education that is valuable in their everyday-life (I3, 2017). In general, the zone places great value on its employees and the environment and therefore carries out different initiatives to generate value in said sectors. Zone operators work closely together with the hosted companies and encourages companies to carry out development projects themselves (I3, 2017).

All projects are based on the concept of sustainable value, meaning that the value that will be created through the projects, covers the costs. For example, an employee development project might not be directly aimed at workplace development, but enhance the employee's knowledge in terms of recycling, which in turn will help companies with waste management and sustainability in general (i3, 2017). Another core goal of this framework is that projects should be linked to the domestic levels and create spillover effects, so that the overall economy benefits (I3, 2017).

4.5.6.1 Sustainable waste management

In underdeveloped countries, economic progress often tends to be prioritized over sustainable growth and hence the eco system suffers (I3, 2017). To address this issue, the zone operators set up a waste management and disposal factory inside the free zone, that is also offered as a service to all hosted companies (I3, 2017). This system works closely together with governmental waste management and creates a highly sustainable environment that reduces the impact on the ecosystem as much as possible.

Another important aspect in terms of sustainability is the awareness of locals about the topic. As the people tend to be not well educated, issues like sustainability often are of no concern to them (I3, 2017). The free zone operators educated and train employees inside the company in order to raise awareness about this topic (I3, 2017). This can also be assumed to create spillovers into the local communities that the employees live in and benefits the overall economy.

⁶ UNIDO defines CSR as „Corporate Social Responsibility is a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders.” (UNIDO, 2017).

4.5.6.2 Education of employees on managing personal finances

As already mentioned, employees tend to be poorly educated. This factor also influences employee's everyday life and has especially big impact on their personal finances (I3, 2017). Many of the employees were highly indebted and spend almost all of their income on paying back only the interest rates on these debts. To address this issue, the zone operators initialized and funded what can be considered a bank inside the zone and an education initiative along with it. The core concept was to educate employees on how to effectively handle personal finances and with help of the fund settle debts on national level. Employees were then enabled to pay back debts with a much lower interest rate and therefore increase their overall quality of life (I3, 2017).

4.5.6.3 Initiative on healthcare and insurance

As generally known, healthcare systems in underdeveloped countries tend to be of bad quality and are often not able to deal with the high amount of people that require aid. This is also the case in the Dominican Republic (I3, 2017). The health of employees plays a major role in the productivity of employees and is vital in terms of corporate social responsibility. Together with companies hosted in the Las Americas free zone, the zone operators decided to build and run a medical unit located in the zone. It offers a broad range of services, where only surgeries and other complicated procedures are not supported (I3, 2017). The zone employs doctors for the medical unit and allows employees to bring in family and relatives. Through negotiations with the government, the payments for the treatments come from the national insurance that is deducted from the salary (I3, 2017). In this way, the zone operators created and funded an inhouse hospital, that is run on the generated money from employee's insurances.

4.5.6.4 Knowledge and technology transfer

In order to be able to host modern and high value creating companies, processes and standards need to comply with international standards, security regulations and certifications need to be obtained (I3, 2017). Las Americas free zone invested heavily in undergoing learning processes, setting up standardized security procedures and quality management frameworks to be able to attract and host companies that are bound include this standards in buildings and the workplace environment (I3, 2017).

This resulted in better trained employees – knowledge transfer, increased technology transfer and in this way spill-overs to the local economy (I3, 2017).

5 Results and Conclusion

The case study identified different aspects that can be assumed to be a positive impact and hence are answers to the research question – **“How does a free trade zone positively impact on the Dominican Republic’s Economy”**.

5.1 Employment Creation

Based on the statistical reports, ever since 1996 the free zone sector has been a stable source of employment for the country. Where in 2015 the number of employees within zones amounted to 161 257 and indirect employment generated additional 483 771 jobs (Table 1). Considering that the sector generated about 12% of the nation’s total employment, it can be said that free zones are successfully creating employment and help fight high unemployment rates.

5.2 High number of private zones

As private zones are not cost intensive to the government and generally follow a more modern and sustainable approach on the management of operation, the higher number of free zones in the Dominican Republic can be considered a positive development for both the economy as well the society. As shown in table 3, the country has 47 private free zones, 15 public and 3 mixed, implying that the sector as a whole is basically led by private initiatives and hence can be assumed to be modern, flexible and catering to higher value companies.

5.3 Attraction of investment in high value creating sectors and increase in backward linkages

When looking at investment throughout the different sectors located in free zones within the country (table 9), it is evident that nation successfully managed to bring in higher value producing companies, such as medical and plastic firms. For these sectors investment increased significantly and as these sectors also require higher skilled workers, the human capital development effect is important as well as beneficial for

the economy. The increase in investment in the tobacco and the sector of agroindustrial products (sugar etc.) implies that more backward linkages to the local economy were created, resulting in higher exports of domestically grown products that are used in production processes within zones. Generally, the sector is successful in attracting foreign direct investment where within 15 years the amount of investment is almost 4 times higher, in 2000 1 222 Mill USD and in 2015 4 043 Mill USD.

5.4 High contribution to national export

The contribution of free trade zones to the national export of the Dominican Republic in 2015 amounted to 57,9% (Table 11). While compared to earlier years this percentage is much lower, the sector can be expected to grow in contribution to exports in the next years, due to the successful diversification of exports and imports and attraction of higher value producing industries such as medical equipment production.

5.5 Framework for efficient human capital development

One of the most significant impacts for the country is the high rate of human capital development in terms of not only workplace education, but also in personal matters such as finances and sustainability. Where in table 18, it can be observed that on average 39 354 employees per year are trained, resulting in a better educated and more productive society. Through this education, it can be assumed that people bring this knowledge to their communities and help the country overall developing a more conscious approach to waste management and personal matters. Hence this framework results in broad human capital development and helps the nation as a whole to develop further.

5.6 Initiatives to improve the lifestyle of the society by private zones

As observed from the in-depth analysis of a private free zone, such zones place high value on their employees. The analyzed free zone, the Las Americas Free Zone, initiated several projects in cooperation with hosted ones to improve the life of employees inside the zone as well as their private life. As a private zone, the operators actively promote sustainability and foster technology transfer in the sense of

acquiring international certifications to host companies in a highly productive environment. Additionally, the zone proved beneficial for the surrounding region as the operators worked together with the government to develop the surrounding region in terms of infrastructure and community.

5.7 Lesson learned

The Dominican Republic's approach to human capital development with the infotep fund could be applied in other countries as well and can be assumed to have similar effects as it basically just requires the introduction of what can be viewed as a tax, that is later invested back into trainings and education of employees. Fostering a high percentage of privately operated and owned zones through a liberal free zone framework can also be identified as an approach that can be applied in other countries. This can be assumed to in turn increase FDI volume, as private zones tend to attract higher value companies, and as well bring a higher social benefit in terms of sustainability and corporate social responsibility projects.

6 Limitations

This study is limited in terms of generalizability due to the single case study approach (Yin, 2003). It is also limited in terms of up to date literature, as most of the literature that could be identified as relevant is older than 4 years.

List of Interviews

I1 – Alejandra Pellerano (Board Member of the Las Americas Free Zone, December 9, 2016)

I2 – Alejandra Pellerano (Board Member of the Las Americas Free Zone, April 25, 2017)

I3 – Claudia Pellerano (CEO of the Las Americas Free Zone, April 29, 2017)

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