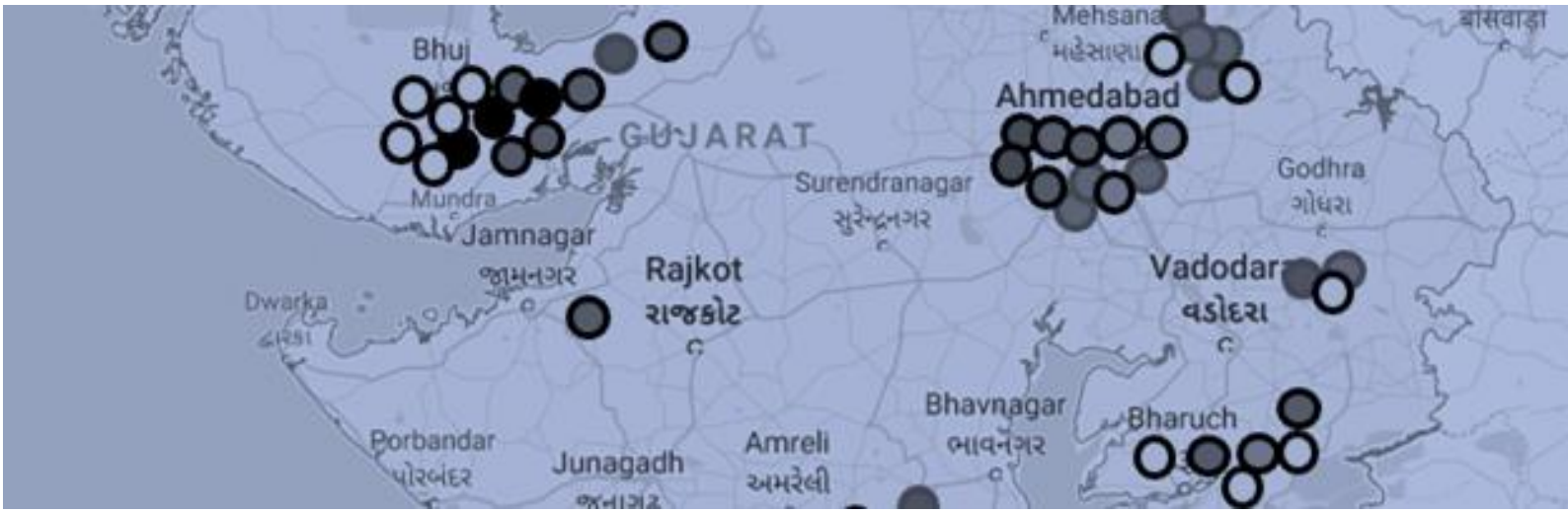
Master's thesis

Special economic zones and human well-being

A case study of Gujarat State in India



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Date of submission: 15th, May 2018

Number of pages (characters): 80 (147054)

Abstract

The establishment of Special Economic Zones (SEZs) worldwide continues to increase, creating employment opportunities for a growing number of people: these areas are also considered by policymakers as instruments to boost productivity and increase FDI. However, an intense debate revolves around the real impacts of SEZs on human development and growth. This study's purpose is to contribute to a better understanding of the impact of SEZs on human well-being. The analysis is focused on India and, in particular, on the State of Gujarat. Previous researches on developing zones produced heterogeneous results and a clear assessment of the impact of these zones is not available, thus, the present analysis aims to be part of the stream of literature on this topic. Moreover, this is going to be the first one that systematically analyses SEZs impact on Gujarat through an analytical procedure that leverages both on National Sample Surveys and on Census database, in order to draw conclusions on economic and social development figures. The findings, based on the Census dataset, suggest that SEZs do not have significant impacts on education, health, transportation and commercial infrastructures. The analysis built upon the National Sample Surveys however, highlights mixed results and shows that, only in specific cases, developing zones affect the level of household consumption.

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1. Introduction

The idea of benefiting selected economic spaces with incentives and ad hoc laws, finalized to promote trade and export, has existed for years. The first documented use of a "privileged zone" for the development of economic activity are the free ports of Hanseatic League in the XIIIth century (Nel & Rogerson, 2013). In the XVIIIth century, the "privileged zones" evolved into citywide areas positioned on the major trade routes like Gibraltar (1704), Singapore (1819) and Hong Kong (1848) (FIAS, 2008). Puerto Rico, by declaring the status of free trade zone in 1948, followed immediately by the Shannon Airport area in Ireland and several Mexican regions, expanded the notion of free economic zone to more geographically extended territories (Farole, 2011). In the 1960s, various types of special economic zones started to blossom in East Asia and Latin America (Zeng D. Z., 2016). In 1986, the total number of officially instituted SEZs was 176 in 47 different countries (ILO, 2003). By 2006, the number of zones rose to 3500 across 130 countries (Aggarwal, 2010). Currently, 75% of the countries (Bell, 2017) present at least one of the 4,500 instituted SEZs and this number is expected to grow even more in the next decade (The Economist, 2015). The employment in SEZs grew by 300% in ten years and reached 66 million units. China is the bigger player in this zone development process, with more than 40 million people employed in roughly 3500 SEZs (ILO 2003,2007). 70% of the workforce in SEZs is composed by female workers. This number has remained constant since the establishment of SEZs with specific manufacturing orientation (FIAS, 2008).

Nowadays, SEZs have become a key element of global industrial operations, especially in emerging economies. Economists and policy makers in these countries tend to prefer more often this type of developmental policy instead of a substitution based one. (Aggarwal, 2007)

Even though they assumed various configurations throughout the history, this paper focuses on modern special economic zones only, a generic term that encompasses the recent variants of the traditional commercial zones. In order to define these, we refer to the guidelines and standards contained in the Revised Kyoto Convention of the World Customs Organization (WCO 2008). The WCO suggests to treat free zones as "outside the customs territory" for the calculation of import duties and taxes (World Custom Organization , 2018, p. np).

Nel and Rodgerson, (2013) define the Special Economic Zones as "a geographical designated area of a country set aside for specifically targeted economic activities which are then supported

through special arrangements - which may include laws - and support systems that are often different from those that apply in the rest of the country" (Nel & Rogerson, 2013, p. np). According to Milberg and Amengual (2008) they are "regulatory spaces in a country aimed at attracting export-oriented companies by offering these companies special concessions on taxes, tariffs and regulations" (Amengual & Milberg, 2008, p. 1). These incentives and concessions could be:

- Export tax exemption
- Duties on import discharge
- Direct taxes exemption, as those on profit and property
- Indirect taxes exemption, as VAT on national purchases
- National foreign exchange controls exclusion
- Unrestricted profit repatriation for foreign companies
- Provision of customized administrative services
- Free endowment of physical infrastructure for production, transport and logistics

According to Cirera and Lakshman (2017), there are two more types of concessions under Special Economic Zone:

- Derogation of specific sections of labour laws, such as working hours or minimum wages
- Subsidised prices in public utilities, such as electricity or water

In general, we can affirm that different zones concede different types of incentives, subject to the present local market conditions, capability to attract Foreign Direct Investment (FDI) and the type of sectors targeted to reach development.

The size of the incentives and concessions provided also depends from the actual conditions of the domestic economy. For example, in countries with a difficult business environment, the magnitude of the concessions tends to be bulky, as foreign companies will not undergo in investment in those areas otherwise (Cirera & Lakshman, 2017).

The reason behind conceding these incentives, differ between developing and developed countries. For developing countries, Madani (1999) and Cling and Letilly (2001) outlined four broad policy reasons of establish a SEZ:

- To sustain significant economic reform policies: according to this perspective, SEZs are the means through which the country is able to increase and differentiate its exports. Zones act as a mere cover-up to decrease anti-export bias, all the while keeping trade barriers in place. Examples of SEZs created with this aim in mind are Taiwan (China) and the Republic of Korea.
- To act as "pressure valves" to disrupt cycles of rising unemployment. Job-fostering programs of this sort can be found in Tunisia and the Dominican Republic.
- To serve as experimental ground to test the introduction of new state policies and methodologies, as is the case of China's freeports, where policies of various kinds – financial, legal, labour and even pricing – were introduced before officially landing Chinese economy.
- To attract foreign direct investment, typical feature of new SEZ programs, mainly in the Middle East (FIAS, 2008).

The rationale instituting free zones in mature economies is more wide-ranging. Some SEZ were introduced to promote foreign investment, like the new Free Economic Zone program in the Republic of Korea. Others, like the Shannon Free Zone in Ireland, were intended to establish a "growth pole" in an economically distressed part of the nation. But in all these the common factor is the continuous research for trade efficiency and manufacturing competitiveness, which remains the principal rationale behind special economic zone programs in most industrialized countries.

As said earlier the concept of Special Economic Zone evolved throughout the time and this generated a large variety of zones with differing objectives, markets, and activities. The World Bank in 2008 published a list of six different types of SEZ.

- Free trade zones, also known as commercial free zones and free commercial zones, are defined in the Foreign-Trade Zones Act (1934) as small, fenced-in, duty-free areas, offering warehousing, storage, and distribution facilities for trade, transshipment, and re-export operations. The FTZs are meant to ease the transiting trade, by eliminating taxation on incoming goods and offering dedicated facilities and infrastructure.
- Export processing zones are industrial areas providing particular incentives and facilities for manufacturing and processing operations. Generally, the plants are fenced-in and the output is destined mostly at export markets. In particular, in the classical EPZ model, all

the companies operating inside the zone are export-oriented. By contrast, in the hybrid model, a general zone opens to all businesses regardless of export orientation and a separate area reserved for export-oriented enterprises only. EPZs tend to evolve during the years as they change along with the economy in the domestic market and the technological development (Aggarwal, 2010). This type of zone is dominated by low cost labour intensive industries in the earliest phase of their establishment.

- Freeports are a type of zone with similar features with Free Trade Zones even though they are more complex and territorially expanded. They host a wide range of activities, including tourism and retail sales, permit people to reside on site, and provide a much broader set of incentives and benefits. Because of the multiple activities within their boundaries, companies operating in a freeports generates output destined to the domestic, internal and export markets.
- Enterprise zones aim to give a new impetus to distressed urban or rural areas through the concession of tax incentives and financial grants. This type of zone is specific of nations with advanced economies such as United States, Ireland, France and United Kingdom. Enterprise zones develop on a limited territorial area, usually smaller than 50 hectares, which makes them one of the tiniest type of SEZ. The products processed and generated within the zone by the licensed companies are mostly destined to the domestic market.
- Single factory is a special type of zone in which companies can benefit from concessions based on an agreement with the local authorities regardless of location. This means that industries do not have to be located within the boundaries of a specific territorial zone for taking advantage of the privileges and incentives. The size varies depending on the individual enterprises' needs but it never goes beyond a single fenced-in industrial plants. Typical single factory concessions are subsidized utility prices, discounted cost of land and sometimes derogation of specific sections of labour laws (Cirera & Lakshman, 2017). The activities within these factories are mostly of manufacturing and processing and the output in almost the totality of the cases destined to the export market. A large number of nations, like Mexico, Mauritius and Madagascar, rely heavily on this particular type of scheme to attract FDI and boost exports.
- Specialized zones are special economic zones that through the time evolved into extremely specialized clusters, designated to meet the needs of specific industries and activities. Examples include special zones to promote high technology or science-based industries;

petrochemical and heavy industry zones relying on cheap energy sources and specialized facilities; financial services zones to promote offshore financial and non-financial activities.

In addition to these classical types of zones, Zeng (2016) identifies other three forms of SEZs:

- Comprehensive Special Economic Zones or Multi-functional Economic Zones are territorial delimited areas hosting a huge variety of industrial, service and urban-amenity activities. They are usually expanded on the territory of a whole city and are somehow similar to the freeports described above. The difference lays in the fact that the Comprehensive Special Economic Zones do not require necessarily the presence of a port within the boundaries of the zone. They are also different from the Export Processing Zones which are enclosed manufacturing areas, while Comprehensive SEZs are large industrial towns spread over various hundreds of hectares. China employs largely this type of scheme creating various industrial cities, such as Shenzhen, or provinces, as Hainan, countrywide.
- Industrial Park are large manufacturing-based sites. It is a hybrid between a Specialized Zone and a Comprehensive Special Economic Zones. In fact, many of these zones are multi-functional, but they operate in a smaller scale.
- Bonded Areas (also known as "Bonded Warehouses") are estates where products might be stored or might go thorough industrial manipulation without being charged with fees and duties that would be generally imposed. They are similar to "Freeports" and "Free Trade Zone" seen above. The difference among them lays in the fact that Bonded Areas are subject to customs laws and regulations while the other two are exempt from these provisions (Zeng D. Z., 2016).

SEZs areas have consequently been employed as political economy instruments. However, these zones have not only impacts on the balance of payment but also many spill-over effects on human population, as their implementation and the activities could influence labour conditions and living standards.

The existing literature on SEZs' impacts on well-being, though vast, gives mixed and heterogeneous results. The different perception of the consequences of these areas on population

does not give the possibility to frame the issue properly. In addition, the inexistence of a common framework for the analysis of the problem enlarge the difficulties encountered when aiming to objectively assess the effects that special economic zones have on human development (Aggarwal, 2007; Cirera & Lakshman, 2017).

Therefore, this study aims to empirically investigate the consequences of these developing areas on human population basing the analysis on a sound analytical ground. Statistical methods have been applied, whereas the data processed are secondary data. The whole analysis revolves around a unique research question, which is whether, and to what extent, SEZs have impacts on human well-being. The framework has been applied to a specific zone of India, the State of Gujarat.

Gujarat is one of the most industrialized and fastest growing regions of India with a number of developing zones second only to the district of Maharashtra. The political economy of its government has focused on cutting red tape, providing infrastructures, facilitating investment and land acquisitions. Its fiscal surplus (most Indian states do not have a fiscal surplus) enabled the government to expand infrastructures and to offer incentives to companies, who thus gained the possibility to perform far better than other important commerce hubs of India. Moreover, its strategic location makes it one of the western gateway and enabled the region to become a centre of commerce. For all these reasons, Gujarat has been defined as an aspiring region leader and the Gujarat model of development has become famous in India. However, Gujarat has some weaknesses connected to social needs, in fact, its performance in human well-being and development indexes is not as strong as the one connected to the economic field (The Economist, 2015). It is thus interesting to analyse how, and to what extent, SEZs have influenced the social sphere in this region. Examining the region of Gujarat is furthermore important because it has been seen as one of the Indian states to emulate in order to achieve top economic results.

The study is organized into six sections. The first after the introduction aims to give to the readers a complete understanding of Gujarat economic scenario, the third section reviews the stream of existing literature on developing zones and it is focused on different aspects of human well-being. That section is divided into two main parts: the first one analyses the studies that generically revolve around SEZs and human development, the second one examines the studies that have been produced on the region of Gujarat so far. The fourth part is the investigation. After an overview of the data utilised for the empirical studies, that section is divided into two parts, which mirror the two-level analysis that have been employed to examine the impacts of SEZs on the

population of Gujarat. Section five highlights the limits of the present analysis and suggests possible approaches for further studies, finally the sixth and last section concludes the analysis and gives policy suggestions.

2. Gujarat scenario

Gujarat is an Indian State, divided in 26 districts, and its area is almost the 6% of all Indian territory. Its total population reaches the 62.7 million of people (which is less than the 5% of total Indian population) and its decadal growth rate is 19.28%, percentage higher than that of India,which is 17.68%. (Directorate of economics and statistics: Government of Gujarat, 2017). Of its total population, the 57.4% of the inhabitants are classified as rural, whereas the urban ones are the 42.6%; however, it is interesting to look at the growth rates of these two groups. Indeed, the former group's growth rate is 9.23% while the latter one is 35.83% (The Economist, 2015). The rural and urban distribution among districts can be analysed in table 1.

Table 1: Population and Decadal Growth Rate by Residence – Persons

Code	India/Gujarat/Districts	Population 2011			Percentage Decadal Growth (Persons) 2001-2011		
		Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7	8
	INDIA	1,210,193,422	833,087,662	377,105,760	17.64	12.18	31.80
00	Gujarat (24)	60,383,628	34,670,817	25,712,811	19.17	9.23	35.83
01	Kachchh	2,090,313	1,364,472	725,841	32.03	23.11	52.84
02	Banas Kantha	3,116,045	2,702,668	413,377	24.43	21.26	50.05
03	Patan	1,342,746	1,061,713	281,033	13.53	12.44	17.87
04	Mahesana	2,027,727	1,513,656	514,071	9.91	5.62	24.86
05	Sabar Kantha	2,427,346	2,064,318	363,028	16.56	11.14	61.25
06	Gandhinagar	1,387,478	787,949	599,529	12.15	-6.92	53.48
07	Ahmadabad	7,208,200	1,149,436	6,058,764	22.31	-0.31	27.82
08	Surendranagar	1,755,873	1,258,880	496,993	15.89	13.14	23.49
09	Rajkot	3,799,770	1,591,188	2,208,582	19.87	3.05	35.84
10	Jamnagar	2,159,130	1,188,485	970,645	13.38	11.28	16.07
11	Porbandar	586,062	300,236	285,826	9.17	8.99	9.35
12	Junagadh	2,742,291	1,836,049	906,242	12.01	5.72	27.37
13	Amreli	1,513,614	1,127,808	385,806	8.59	4.33	23.28
14	Bhavnagar	2,877,961	1,697,808	1,180,153	16.53	10.64	26.21
15	Anand	2,090,276	1,456,483	633,793	12.57	7.98	24.77
16	Kheda	2,298,934	1,775,716	523,218	12.81	8.84	28.73
17	Panch Mahals	2,388,267	2,053,832	334,435	17.92	15.91	32.00
18	Dohad	2,126,558	1,935,463	191,095	29.95	30.76	22.24
19	Vadodara	4,157,568	2,097,791	2,059,777	14.16	5.12	25.12
20	Narmada	590,379	528,765	61,614	14.77	14.38	18.25
21	Bharuch	1,550,822	1,022,413	528,409	13.14	0.42	49.88
22	The Dangs	226,769	202,074	24,695	21.44	8.22	NA
23	Navsari	1,330,711	921,599	409,112	8.24	3.19	21.63
24	Valsad	1,703,068	1,068,993	634,075	20.74	3.85	66.35
25	Surat	6,079,231	1,235,509	4,843,722	42.19	-8.43	65.52
26	Tapi	806,489	727,513	78,976	12.07	11.90	13.61

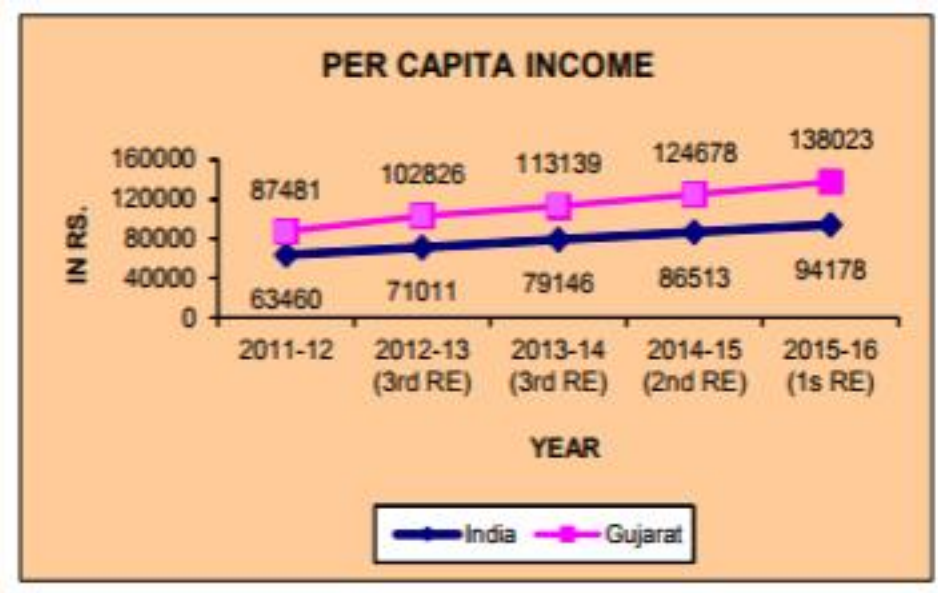
Source: Director of Census Operations, 2011

Gujarat is one of Indian's most developed states, it accounts for the 7% of total India national GDP (The Economist, 2015) and scores as one of the top Indian State considering the ease of

doing business (IANS, 2017). Moreover, it witnesses an impressive industrial growth. In the years 2015-2016, the sectoral share of gross state value added at current prices is 19.1% in the primary sector, 42.2% in the secondary one and 38.7% in the tertiary sector. However, the distribution of the share of employment per sector does not reflect the above results: the primary sector remains, as for as the census of 2011 is concerned, the sector that mainly employs the workforce, indeed, its percentage of employers on the total labour is 49.6% (Directorate of economics and statistics: Government of Gujarat, 2017). Furthermore, although Gujarat ranks among the top Indian State for unemployment rate (Gujarat unemployment rate is at 0.09 while the Indian one is at 50), the 81.20% of the total labour force is employed in the informal sector (Directorate of economics and statistics: Government of Gujarat, 2017). The State achieves good percentages in the share of exported units on the total of Indian exports as well; indeed, Gujarat exports are around the 14% of the total Indian ones and, by adding the export of gems and jewellery on top of the abovementioned percentage, the total exports from Gujarat reach the 25% (Industries Commisionerate: Government of Gujarat, 2017).

The state performs well also in terms of per capita income. Indeed, Gujarat's per capita income is,on average, higher than the national one (Indian per capita income is set at 1473.41$ (Rs. 94178) at current prices). The analysis of per capita income might be worth a closer look to comprehend its patterns. The Per Capita Income (Per Capita NSDP) at market constant prices (2011-12) has been estimated at 1857,60$ (Rs. 118545) in 2015-16, whereas the per capita income in 2014-15 was of 1721,29$ (Rs. 109846). These data show a growth of 7.9% between these years, while the region in 2016/2017 scores as the 11th state of India for Per Capita Income at constant prices. If the analysis is hold at current price, the Per Capita Income is at 2162,82$ (Rs. 138023) in 2015-16 while per capita income was 1953,70$ (Rs. 124678) in 2014-15: here the increase is of 10.7%, and Gujarat scores as the 8th state of India (Industries Commisionerate: Government of Gujarat, 2017; Economic statistical Organisation Punjab, 2017). In Graph 1, it can be appreciated the growth of the per capita income in Gujarat compared to the one of India.

Graph 1: Per capita income at current prices



Source: Industries Commisionerate: Government of Gujarat, 2017

Albeit Gujarat, as pointed above, is one of the most industrialized State in India; by examining the Human Development Index (HDI), it can be noticed that it is lagging behind the national average. The first Indian state-wise HDI released in 1999 placed Gujarat in the 10th position ,whereas the 2007 HDI placed it at the 11th position. What is preoccupying is that, in that time frame, Gujarat's HDI decreased. Based on these data Gujarat, is still considered a less developed State. Additionally, almost the 17% of its population lives below the poverty line (IANS, 2014; Ministry of Finance: government of India, 2011; Institute of Applied manpower research, government of India, 2011; Deakin & Haldar, 2015).

2.1 Gujarat State SEZs Scenario

Gujarat's State has been the first in India to enact a SEZ act in 2004 as it had the aim to "boost manufacturing activities, infrastructure development, export promotion and generate employment" (Industries Commissionerate: Government of Gujarat, 2017, p. np). Moreover, the legislation establishes that the institution of SEZs can be approved only if developing zones respect some specific characteristics e.g. they contribute to the generation of economic activity and employment, promote exports and investments or have the objective of developing infrastructure facilities (Government of Gujarat, 2017). Gujarat was also the first to establish an Authority in charge of both the administration of SEZs' related issues and of the creation of a

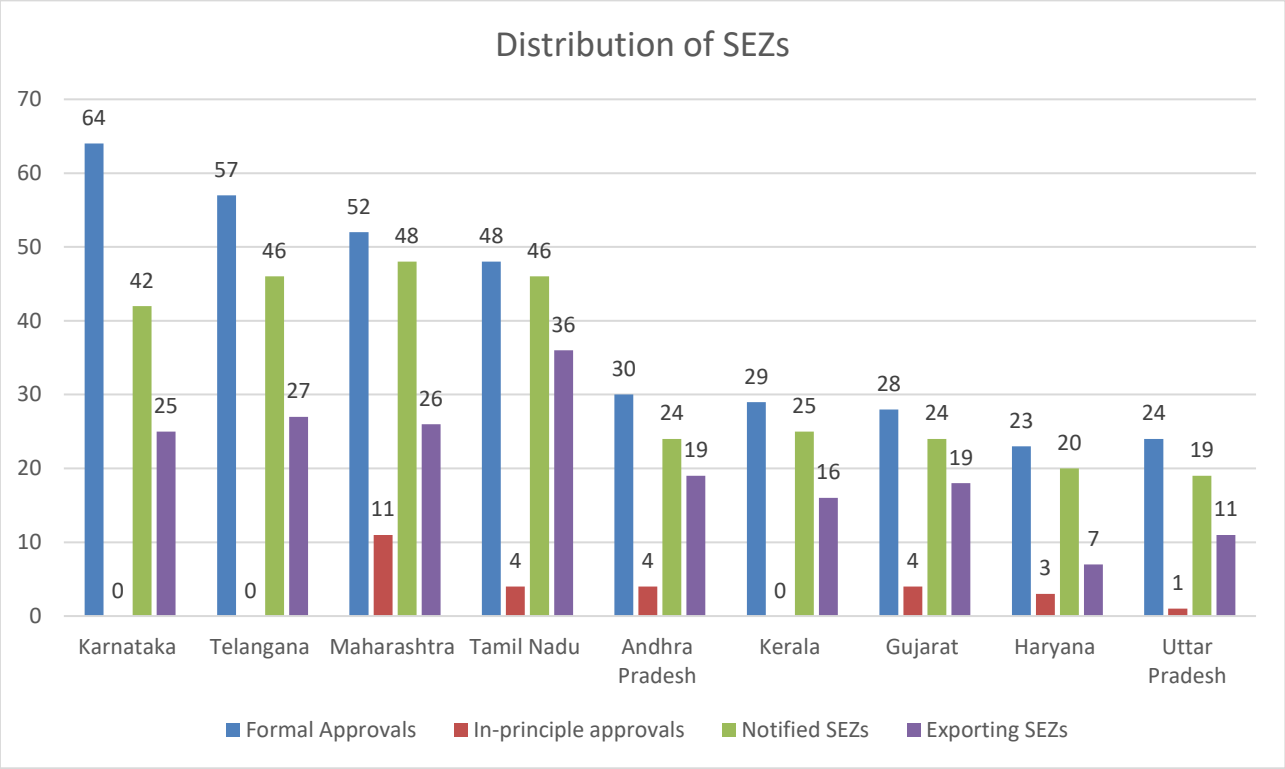
body of laws that could provide operational, managerial and administrative guidance to SEZs' developers (Government of Gujarat, 2017).

Additional rules and regulations have been ratified in 2005 and in 2007 to provide assistance and tax concessions to companies that operate in SEZs. Besides, the government offers complete flexibility in the employment of the workforce inside SEZs units (Industries Commissionerate: Government of Gujarat, 2017). In this context, the Government of Gujarat is highly involved and has an active role in the economic policies that revolve around the investment and development of SEZs, and it has also been appreciated for the capability of creating an enabling environments for investments (Pradhan & Das, 2016).

The 2004 SEZs' act presents also a section that regulates labour, water and environmental issues and creates a "hassle free operational regime and a duty-free territory" (Industries Commissionerate: Government of Gujarat, 2017, p. np); consequently, SEZs areas are considered as foreign territories concerning both tax and duty regimentations. Moreover, as a result of this land regime, the movements of goods, from and to SEZs, are seen as export and import trades from SEZs to the Domestic Tariff Area and vice versa (Pandit, 2014).

As of 2017, in all India there are 411 formal approved, 32 In principle approved, 330 Notified and 206 operational SEZs (Ministry of Commerce & Industry Department of Commerce, 2017). The country wise distribution of SEZs can be evaluated in the graph below (graph 2), where the 9 States with more SEZs have been shown:

Graph 2: Distribution of SEZs in India, top 9 States



Source: self-elaboration based on Ministry of Commerce & Industry, Department of Commerce, 2017

Among these, Gujarat, across the state, has a total of 75 SEZs, 19 of them are operational SEZs (representing the 10% of the operational SEZs of the country), 24 have the status of notified SEZs (final administrative step required to initiate to operate), 28 are formally approved and 4 in principle approved (Ministry of Commerce & Industry Department of Commerce, 2017). These developing zones are established in ten of its 26 districts (table 2); thus, in term of inclusiveness, Gujarat is considered as a non-inclusive state as the ratio of number of districts that have a SEZ (10 in total) compared to the total number of Gujarat's districts (26 in total) is below one (Directorate of Economic and Statistics: Government of Gujarat, 2017; Industries Commisionerate: Government of Gujarat, 2017; Menon, 2008; Palit, 2009). For these areas, it has been allotted, in the whole State territory, an area around 35000 hectares. However, the dimension of these zones varies from 10 hectares up to 5000 hectares (the biggest SEZ is located in Kandla, Kutch); as a matter of fact, 19 have an area wider than 100 hectares, whereas 11 SEZs are bigger than 1000 hectares (Ministry of Commerce & Industry Department of Commerce, 2017).

Table 2: Number of SEZ approved per district divided by type of approval

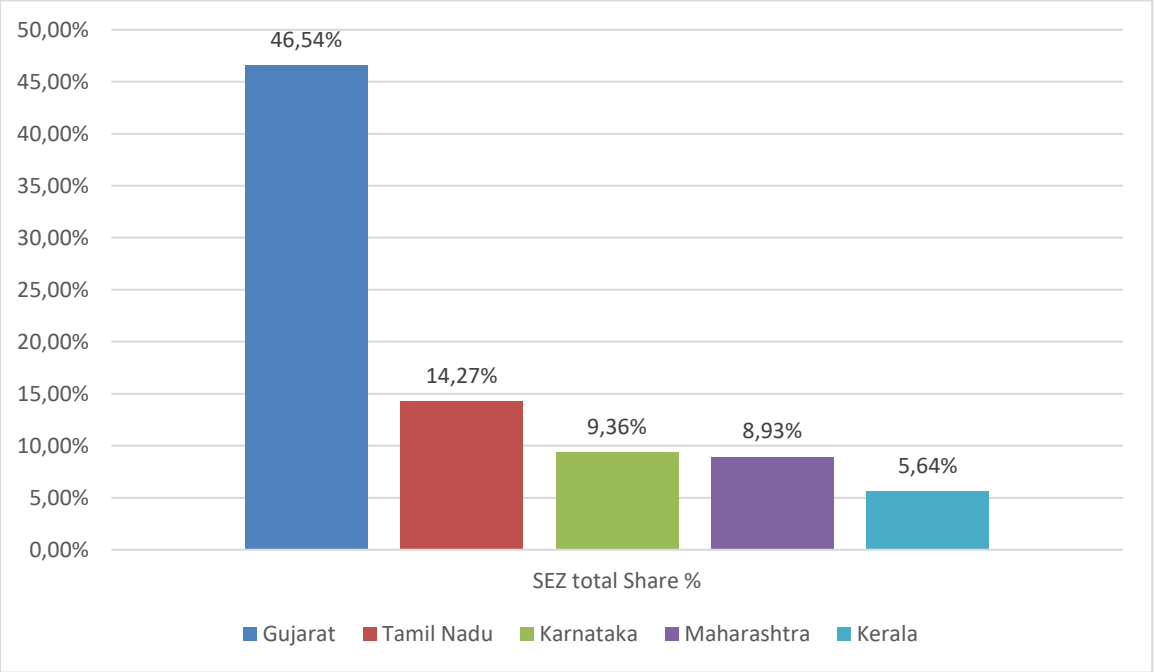
District	Operational SEZs	Valid in-principle approvals	Notified SEZs	Formal approval SEZs	Total
Surat	2[1]	0	0	0	2
Jamnagar	1	0	1	1	3
Bharuch	3	1	4	5	13
Kutch	3	2	2	3	10
Ahmedabad	3	0	7	7	17
Gandhinagar	4	0	6	6	16
Vadodara	2	0	3	3	8
Amreli	1	0	1	1	3
Valsad	0	1	0	1	2
Mehsana	0	0	0	1	1
Total	19	4	24	28	75

Source: self-elaboration based on Ministry of Commerce & Industry Department of Commerce, 2017

Analysing SEZs exports performances, it can be seen that Gujarat highly contributes to Indian SEZs' total exports; in fact, between 2008 and 2015, Gujarat's exports accounted for the 46% of SEZs' total export (Millath & Thowseaf, 2016) (graph 3):

[1] These two zones were approved before the establishment of the 2004 SEZs Act (Ministry of Commerce & Industry Department of Commerce, 2017).

Graph 3: State wise export of SEZs Top 5 districts (2006-2016)



Source: self-elaboration based on Millath & Thowseaf, 2016

Gujarat's developing zones are specialized in several sectors (Asher, Gujarat and Punjab The Entrepreneur's Paradise and the Land of the Farmer, 2014; Government of India, 2017). The keys ones are: IT/ITS, Multi-product, Engineering, Pharma, Apparel and Textile, Non-conventional Energy including Solar Energy Cells/Equipment, Multi service, Chemical (table 3 and 4):

Table 3: Sector wise break-up of SEZs in Gujarat as on 2017

Sector wise break-up of SEZs in Gujarat as on 2017	
IT/ITES	24
Multi-product	16
Pharma	8
Engineering	3
Apparel and textile	4
Non-conventional Energy including Solar Energy Cells/Equipment	3
Multi service	3
Chemical	3
Port based multi-product	2
Biotechnology	2
Hi-tech engineering products and related services	2
FTWZ	1
Food Processing,	1
Infrastructures	1
Oil & Gas	1
Electronics, hardware, software including IT/ITES	1

Source: self-elaboration based on Ministry of Commerce & Industry Department of Commerce, 2017

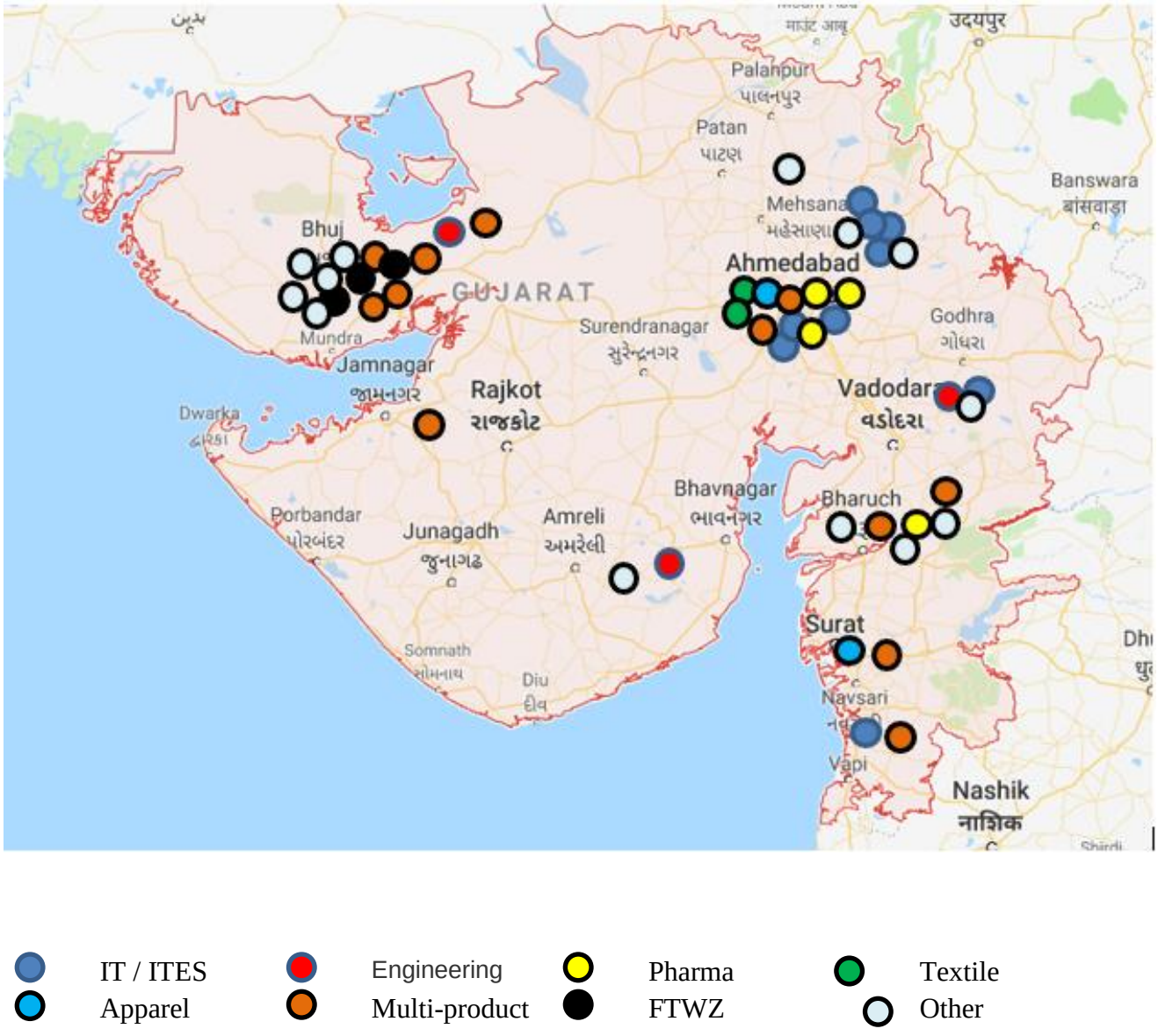
Table 4: Type of SEZ per district as on 2017

Type of SEZ per district as on 2017	
Ahmedabad	Textile and apparel (x3), pharmaceutical (x6), IT/ITES (x8),
Gandhinagar	IT / ITES, (x13), Multi services (x3)
Vadodara	Infrastructure, High-tech Engineering products and related Services (x2), IT/ITES (x3), Biotechnology (x2)
Bharuch	Oil and gas, Multi-product (x7), Pharmaceutical (x2), Chemical (x3)
Valsad	Electronics hardware software including IT/ITES, Multi-product
Surat	Multi-product, Textile & Apparel
Jamnagar	Multi-product (x3)
Amreli	Engineering (x3)
Kutch	Multi-product (x4), Port based Multi-product (x2), FTWZ, non-conventional energy including solar energy equipment/cell (x3)
Mehsana	Food Processing

Source: self-elaboration based on Ministry of Commerce & Industry Department of Commerce, 2017

Below, a visual understanding of the location of the different zones in the territory of Gujarat:

Figure 1 Visual understanding of Gujarat's SEZ



Source: self-elaboration based on Industries Commissionerate: Government of Gujarat, 2017 and Ministry of Commerce & Industry Department of Commerce, 2017

3. Literature review

In the paragraphs below, an analysis of recent researches is presented, in order to give the possibility to understand how the knowledge on SEZs' spill over effects evolved and how different authors analysed various themes.

The review is divided in two main parts: the first one analyses the studies that have been published around the topic of developing zones and it classifies different effects on human population, which are analysed separately, while the second part of the literature review focuses on the studies that have been produced on Gujarat.

3.1 SEZs effect on human population: literature review

SEZs' spill over effects have been widely analysed; an overview of the spill over effects of developing zones is interesting since, even though developing zones are considered as policymakers' development instruments, spill over effects have been several times advocated in the political and economic debate to support SEZs employment and considered as elements that counterbalance the public cost deriving from the implementation of these zones (infrastructures access, tax concessions, land dispossession…). It follows that an examination of their true impact on population is fundamental (Wang, 2013). In general, even though there is some evidence of positive spill over effects, this cannot be considered as a general rule, as there are many examples of developing zones that failed to create benefits for the population.

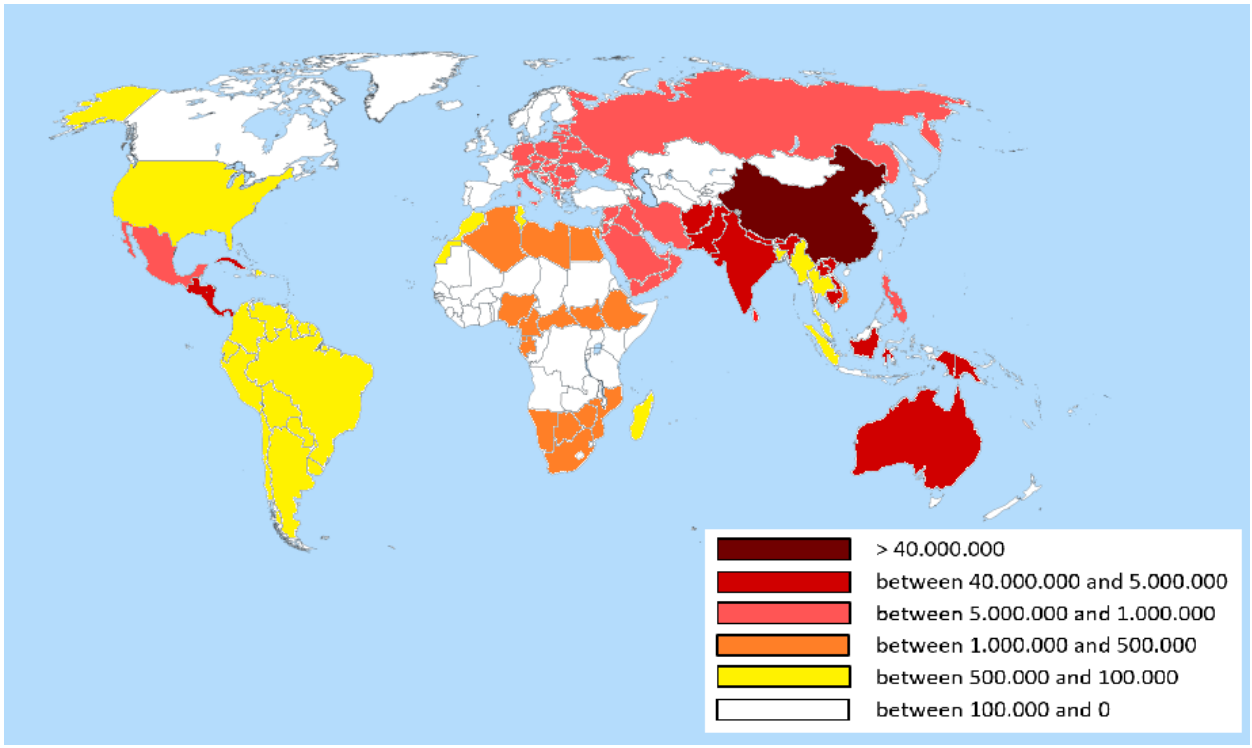
In the paragraph below, several developing zones' effects on human population have been analysed, namely:

- Employment Generation
- Wages and benefits
- Migration
- Poverty reduction
- Living conditions
- Bargain power of labour
- Working conditions and labour standards
- Female situation

3.1.1 Employment Generation

The most immediate and easy to perceive effect of the institution of a Special Economic Zone is the employment generation. The presence of a SEZ allows to elude eventual institutional obstacles to the economic activity in place and promote direct investments in the territory. Aggarwal (2007) describes the steps of the direct and indirect employment generation process. The fertile economic environment consequent to the numerous concessions and, in emerging nations, the vast existence of cheap labour force, attract foreign investments first in labour-intensive sectors. This leads to the formation of manufacturing plants that deploy local unskilled workforce. The increasing need for inexperienced employees naturally leads to an upsurge in the demand of unskilled workers across the whole zone. With time, the SEZs expand and evolve in an attempt to generate higher value added activities. This creates the need for skilled workforce. At the same time, the expansion process generates occupation also for unskilled workers in the construction and infrastructural industry. The steep increase in demand for unqualified workforce can sometimes translate into shortages of employees in the sector as documented by Sivalingam (1994) in Malaysian SEZ. The demand increase for services and utilities within the SEZ also leads to new employment. This is how the direct employment generation process is articulated. The indirect process instead, captures all the employment generated in sectors influenced by the operations of the SEZ. These encompass transportation, communication, packaging and financial services. Enterprises influenced indirectly by the operations of the SEZs utilize workforce with various level of expertise and qualification (Sivalingam 1994 in Arragwal, 2007; Aggarwal, 2007).

Figure 2 Visual understanding of worldwide SEZ's employment



Source: self-elaboration based on Amengual & Milberg, 2008

SEZs instituted in the Asian continent are the best in creating job opportunities for the local population. In 2006 approximately 55 million of people – 48% more than in 2002 – were employed in Asian SEZs (ILO 2008). Asian region accounts for the 85% of the total workers employed in SEZs. As evidenced in the studies of Jenkins et al (1998) the median zone in Asia employs 10500 workers, three times more than the median SEZ in Central America – which is the second best region in creating new occupation through SEZs. China and Vietnam are the single countries that generates most employment by establishing SEZs **Specificata fonte non valida.**. China alone is responsible for the creation of more than 40 million new job places in the zones (ILO 2008). The establishment model relies "Comprehensive SEZs" holding large-scale activities and employing low-cost workforce. It is not unlikely to find single facilities having tens of thousands employees, while the number of workers in bigger factories can even go up to 50,000 or 80,000 (ILO 2008). Even though the textile sector is still the main one inside Chinese SEZs, other sectors have made their ways as well, such as leather goods, food and electronics. In India, jobs generated by SEZs exceeded the threshold of 1 million in 2005, but with no change in the share of manufacturing employment, still at 1%, same level registered in the mid 1990s. Vietnam

created approximately 1 million of new jobs in 2006 by establishing SEZs across the country. This number grow by 700% between 2002 and 2006. Bangladesh and Sri Lanka are two of the most successful example of employment generation due to the implementation of the SEZ programme. In Sri Lanka, SEZs contributed in the creation of 104237 new jobs and the employment within the zone constitutes 10% of the overall occupation in manufacturing sector (ILO, 2008; Aggarwal, 2007). In Bangladesh, the occupation within the zones, grew from 624 in 1983 to 144.000 in 2003, while the employment in the industry grew more than six times slower over the same time frame (Mondal, 2003 in Aggarwal, 2007 ; Aggarwal, 2006; Aggarwal, 2007).

Central America is the second most successful region in generating occupation through the introduction of SEZs. In 2006, more than 5 million of people were working in SEZs, representing 7,7% of the total workforce worldwide in SEZs. The single country that creates most employment in the whole area is Mexico, where 1.212.125 people were employed in SEZs in 2006 (ILO, 2008). This number is in decline compared to 4 years before when the people working in SEZ were 1.355.000. In Dominican Republic, more than 19 SEZs were detected in the late 1990s, having a workforce of circa 141,000 employees. The country also hosts some of the biggest SEZs in the world: in both the SEZs of Santiago and the San Pedro de Macoris, around 35,000 people are put to work (Jenkins et al, 1998; Aggarwal 2007).

Africa is responsible for generating 1.5 million of jobs within the zones. States that have distinguished themselves in creating employment through the implementation of SEZs, are Madagascar and Tunisia.

Even if the implementation of SEZs programs worldwide generated more than 65 million of job places, the impact of this developmental policy on the global net employment is still unsubstantial, accruing to just the 0.2% of it: 2.3% in the Asia/Pacific region, 1.5% in North Africa and the Middle East, 1.2% in the Americas, 0.2% in the Sub-Saharan Africa and 0.001% in Central and Eastern Europe. (Amengual & Milberg, 2008)

The lack of impact of the policy on eliminating the global net unemployment might be due to the fact that many countries did not meet the same standards, as far as zone growth and consequent labour creation. Kenya deployed millions of dollars in promoting SEZ, but after five years no more than 2800 new positions were generated by their efforts, as reported by Rolfe et al in 2004. In 1974, Senegal built its first SEZ in its capital but, twenty years later, it was closed, as Madani

does not fail to highlight in his work in 1999. By then, merely 14 companies were operating, having just 940 workers**Specificata fonte non valida.**. Other cases of similar failure can be found in each and every continent: they could be interpreted as an inevitable consequence of a lack of general attractiveness of SEZ programmes in offering an encompassing set of peerless infrastructure, a stable political framework, a favourable geographical position and appealing fiscal benefits, all essential elements in order to foster investments in these zones (Aggarwal 2006).

An other reason that explains this phenomenon could be the excessive rise in the size of available labour force, which could not be paralleled by an equal increase of employment (Madani, 1999).

Some academicians even hypothesize that the portion of SEZs in the general occupation within the country is an inadequate index of their impact on employment and poverty reduction. It is likely that SEZs excessively enhance industries that prefer unskilled workforce, since, in developing countries, those are the ones more prone to thrive under free trade conditions, as indicated by Schwellnus in 2003. In such cases, the effects of SEZs on local employment and poverty might even be significant, but fails to be accounted in the general picture (Schwellnus 2003 in Aggarwal, 2007; Aggarwal, 2007).

From time to time, job opportunities generated by SEZs are believed to be solely a replacement of the previous jobs located outside the zones, not an additional input to the national employment; it is the so-called "additional effect". The effect on employment and wages is still lacking significant evidence as so far, not enough studies have dealt with the issue of additionality. Some of them, focused on single countries in isolation, stressing that the work opportunities created by the SEZs are indeed a significant addition to the net amount. In an analysis cited by Athukorala (1997), the impact of companies within a SEZ is recognized to be substantial in terms of labour participation shares, mostly for what concerns the entrance of young women in the workforce. For example, in Bangladesh, the SEZ programme established an industry that was almost inexistent until then, that of electronics, where new job positions were made available (Mondal, 2003). Moreover, the rate of labour increase inside the SEZ is almost three times bigger than that of the country, meaning that little if any employment replacement occurred outside the zone, and that new jobs were created. However, an analysis of this sort needs to be integrated with surveys accounting for the precedent employment condition of the SEZ workforce and alternative job opportunities for them, an inquiry still missing in the literature (Athukorala in Aggarwal, 2007;

Aggarwal, 2007). Aggarwal (2007, 2010) also addressed the issue of additionality, specifically in the case of Indian SEZs. Two factors are highlighted in her studies; first, that investments inside a SEZ are unlike FDI outside it, the former having a focus on exports and the letter on the domestic market. Second, investments in SEZs necessarily need specific resource allocation, since India has a deficient investment environment per se (Cirera & Lakshman, 2017; Aggarwal, 2010; Aggarwal, 2007).

The thin evidence, due to the fact that few studies have investigated the issue, makes it impossible to determine whether FDI would have had place without the incentive promulgated by SEZs or not (Cirera & Lakshman, 2017).

3.1.2 Wages and benefits

Fröbel et al (1978) see SEZs as world-oriented industries located in developing countries and characterized by the employment of mainly unskilled labour force which is intensely exploited and that in return earns a remuneration which is at minimum levels. The authors suggest that this policy is bearable only because the unemployment rate is high, but they claim that this production model is not going to contribute to developing countries needs and aims (Frobel, Heinrichs, & Kreye, 1978). Afterwards, as the success and substantial growth of the number of SEZs in developing countries grew, academic literature has evolved as well and extensive studies have been made; several of them take into consideration wages issues. Nonetheless, findings are ambiguous, as they vary among countries, jobs typology and workers' gender.

Recently, the increasing number of SEZs in developing countries caused a rise of products manufactured in these zones and commercialized in the world market; the selling price of SEZs' production is usually lower than that of the goods that are made outside them. For this reason, the market share of developing countries is growing but, at the same pace, the pressure on SEZs' labour standards and wages is augmenting (Amengual & Milberg, 2008). This happens because foreign industries working and wages policies are more and more subject to a strict and aware public opinion concerned about the working conditions of workers of developing countries (Cling & Letilly, 2001). This argument is confirmed by Kabeer and Mahmud's (2004) studies: these authors focused on the poverty implication of export industries (in particular, their study focuses on women who work in garment specialized developing zones) in Bangladesh through systematic surveys. As the authors stated, even though the government prohibits trade union inside developing zones, the wages are higher there than outside: this tendency is justified, as the two

researchers claim, because SEZs' industries are subject to a greater level of pressure from importers buyers, consumer lobbies, NGOs etc. (Kabeer & Mahmud, 2004)

Moreover, it has been seen that, in some countries, SEZs guidelines and acts could either include derogation or omit the applicability on labour laws, regulations and minimum wages legislations; thus, the general opinion sees SEZs as places where workers receive a dramatical low payment. Nevertheless, a considerable number of studies found that the wages of workers in the zones are the same or even higher than the median level of the rest of the country (ILO, 2012) (Amengual & Milberg, 2008). Apart from the above considerations, Cling and Letilly (2001) justify this tendency asserting that, as SEZs usually have bad reputation in terms of working standards and conditions, as it is testified by large absenteeism and turnover, higher wages are needed to attract and retain workers but also to compensate the high productivity of labour (Cling & Letilly, 2001).

Gibbon et al (2008), while analysing the studies on SEZs, confirm the tendency that sees the presence of higher wages inside the developing areas; however, they highlight that several variables affect the level of wages, such as the type of sector, the labour market situation and the size of the company. (Gibbon, Jones, & Thomsen, 2008). This pattern is analysed by Cirera and Lakshman (2017) as well. The authors, through a systematic review, assert that labour-intensive sectors benefit more than others from derogations on minimum wages, while skill-intensive industries tend to pay higher wages even if they could enforce the same deregulations. However, on average, they confirmed that salaries payed inside SEZs are higher than those paid outside the zones (Cirera & Lakshman, 2017).

Deeping the analysis on the disparity on salary levels between labour-intensive and skill-intensive companies, the 2014 ILO report suggests that the labour-intensive ones tend to locate their factories in SEZs to benefit from labour law deregulations (absence of unions, lower wages, weak labour administration systems) as their production is characterized by elevated fixed costs (Zeng, Zhang, Chen, Yang, & Su, 2012; ILO, 2014). However, it can be argued that, even if there is a gap between the wages of labour-intensive and skill-intensive employees, the labour-intensive industries usually employ unskilled workforce and, thus, wage opportunities for unschooled people are created (Cirera & Lakshman, The impact of export processing zones on employment, wages and labour conditions in developing countries: systematic review,, 2017). An analysis whose results corroborate the previous statements is the country-focused examination on Kenyan SEZs. The author, employing data collected through interviews administered to 58 SEZs

employees of 15 SEZs businesses and to 68 non-SEZ employees and senior officers of 32 non-SEZ businesses, describes that the earning gap between managers and workers is higher inside developing areas than outside, as zones have to attract skilled workers and managers. Consequently, SEZs' industries need to offer, to these high skilled resources, the same or higher salary of that offered by the general market (Mireri, 2000).

The country-focused study by Wang (2013) validates the salary's trends delineated above. Wang's analysis had the aim to evaluate the benefits and distortions of SEZs on the local economy. The author, to achieve his objectives, utilised a study on panel data, the Difference in Differences framework, and measured evidences over a period of 30 years (1978-2008) of 321 prefecture level cities in China. The analysis examines the economy before and after the establishment of SEZs, compares municipalities with one or more SEZs and assesses the differences between developing zones which were established before and after in the time line. The findings outline the existence of general positive effects of SEZs on investments and on agglomeration economies and identify that, on average, workers in SEZs earn 8% more than the control group. Moreover, Wang (2013) observes that SEZs affect the local economy since the zones create a variety of external supporting businesses: thus, in the municipalities with SEZs, on average, the general wages have grown by the 0.6%. However, it has to be noticed that the areas that have housed a SEZ for longer times show an average increase of wages higher than those that established SEZs at a later date (Wang, 2013). Another study on SEZs in China was made by Fu and Gao (2007). These two authors confirm, through a computation and a comparison of the average salary in the SEZs and outside them, that SEZs' workers remuneration is, on average, 11% more elevated. Additionally, they assert that initially, zones offered up to 62% higher wages (for this study they use data from 1997), but nowadays, this vast deviation does not exist anymore. Nevertheless, they remark that, if zones are in a restricted territory, the wages are higher as industries compete to attract skilled labourers (Fu & Gao, 2007).

Other significant insights on spill over effects connected to wage are presented by Aggarwal (2007). Her study focuses on the human development effects of SEZs in India: the author employs data collected form primary surveys (the researcher interviewed 229 among workers and entrepreneurs of 75 industries in the three largest Indian SEZs: Noida, SEEPZ, and Madras which, in 2007, were the most important zones in terms of exports and employment generated in India) and secondary sources (data available from the Ministry of Commerce and Development

Commissioners' offices). The researcher, comparing the national minimum wage with the wages of SEZs' workers, finds that the wages offered in SEZs are slightly higher than the minimum wages offered in the unorganized sector and that, in SEEPZ developing zone, wages were considerably above the average of the national minimum. Furthermore, from the survey, the level of income satisfaction inside the zone appeared to be higher than outside it: among women who work in the zones, there was the highest level of salary satisfaction (the 65% of women respond positively) while men appeared to be less satisfied (the 54% declared to be pleased with their level of salary). However, the author claims that, standardly, the salary of SEZs' workers is mostly similar to the average of the workers of the same sector but outside the zone. (Aggarwal, Impact of Special Economic Zones on Employment, Poverty and Human Development, 2007).

The 2014 ILO report confirms the above analyses, but asserts that the situation among different SEZs and different countries is highly variable. As a matter of fact, in Morocco, wages declared by managers are usually higher than the real payment and in Nicaragua the monthly payments do not cover the entire basic needs, whereas an ILO report of 2011 focused on China informs that the remunerations of first line workers are usually in line with the minimum wage standards and based on the skills of employers. Furthermore, in Philippines, Sri Lanka and Indonesia, companies located in SEZs do not compensate workers with living wages and a high percentage of them does not even offer a salary above the minimum wage. The report, however, claims that, on average, wages in the zones are greater or at least at the same level of wages outside them; this does not imply however, that incomes are above minimum living standards, moreover, the analysis underlines that the wage situation is country specific (Zeng, Zhang, Chen, Yang, & Su, 2012; ILO, 2014).

Few studies found that SEZs, overall, do not improve workers conditions: Sen & Dasgupta, (2008) through a survey carried out to 615 workers of the region of Delhi, Gujarat, Haryana, west Bengal, Maharashtra (for a total of 271 permanent workers and 344 casual or on a short term contract workers), describe that there are not improvements in terms of wages, benefits and condition of workers inside the SEZs compared to those who work outside them, and that casual and unskilled workers suffer by high discrimination on earnings. The discriminatory situation affects migrant workers as well: this category earns a lower salary for more working hours and does not have non-wage benefits. However, even unionised workers are affected by unfair situations as they are paid a lower salary per hours even though they, overall, work less hours. Furthermore, the authors

confirm the tendencies that sees, on the one hand, industries that produce importable goods offering better conditions in terms of wage and non-wage benefits, and on the other hand, higher wages paid by capital-intensive companies where workers need to belong to the skilled work force. Moreover, they found that the earning's growth rates of the industries housed in SEZs do not affect in any way the compensation and thus, in capital-intensive industries which are characterized by high labour productivity and growth, workers do not enjoy any salary increase correlated with the industry's returns (Sen & Dasgupta, 2008)

3.1.3 Migration

Another interesting perspective is the analysis of the effect of SEZs on the migration flows of workers. This examination gives the possibility to evaluate either the typology of employers who are part of the SEZs work force and the consequences of the additional workplaces on people relocation.

Cirera et al (2017), through their systematic review, suggest that developing zones, by creating work places, encourage migration flows for both workers who are entering the work force and thus are at their first experience, and the existing work force who look for relocation. However, they outline, the relocation of employers is usually a feature that characterizes skill-intensive sectors (Cirera & Lakshman, The impact of export processing zones on employment, wages and labour conditions in developing countries: systematic review,, 2017).

Insights on this spill over effect have been examined by Yonghong (1989), whose investigations focuses on the Chinese SEZ scenario, offers a wide spectrum of possible interpretations: out of the total of the workers interviewed, 54% of them were working even before entering in a SEZ (38% in the industrial sector and 16% in the agricultural one), while 46% of them weren't, either for lack of occupation altogether (32%) or for being currently looking for one (14%). These shares are indicator both of jobs reallocation and of new workforce entering the job market. Zohir (2001) base his analysis on empirical evidences gathered through surveys handed out to 230 male and 227 female workers of both garment industries and non-garment industries located in a SEZ in Bangladesh. The results show that the 72% of women and the 68% of men who were working in garment industries and the 80% of men who were employed in industries different from the garment one migrated to the SEZ area, most of them from rural territory, aiming to find an occupation. Another study on Bangladesh by Kabeer and Mahmud (2004) is focused on the impact of developing zones on human migratory flows. This analysis confirms the tendency highlighted

above. In their study, the authors, through the examination of a casual sample of SEZs workers, show that a great majority of SEZs work force were women who migrated from rural areas. They underline that, in their sample, the migrant workers who are employed in Bangladesh's SEZs represent the 98% of the SEZ's total work force, whereas this percentage is marginally lower when accounting for migrant workers in industries not located in developing zones (in these firms the migrant workers are on average the 80%). Moreover, they emphasise that there are dissimilarities in the migratory history between SEZs' employees and workers who are hired outside the zones; indeed, SEZs' workers represent the lowest percentage of workers who migrated with the family. Additionally, it is interesting to notice that a relevant percentage of SEZ's workers consider their situation as temporary, as they are waiting to get married and get back to the countryside, or consider themselves as still part of the families' groups they belonged to before moving (Kabeer & Mahmud, 2004).

The ILO 2014 survey confirms the tendency that sees the majority of SEZs workers as women from poor backgrounds, who migrated from rural to urban areas of their country to find a job and perceive a fixed salary; however, the ILO report stresses that these workers usually have no previous work experiences. Moreover, this report suggests that, as migrant workers come from villages and are not used to the industrial mechanisms, they are not conscious about workers' rights and risk of being exploited (ILO, 2014). Additionally, Sen and Dasgupta (2008) through a survey carried out to 615 workers of the region of Delhi, Gujarat, Haryana, west Bengal, Maharashtra, argue that migrants workers are less protected than others employers' categories and, therefore, earn lower wages (even below the minimum wage), work longer hours and do not receive working benefits. Moreover, migrant workers are usually casual or contractual workers and thus more exposed to job losses (Sen & Dasgupta, 2008).

Another stream of literature emphasises the study of the internal migration flows. Sanders and Brown's (2012) focused their investigation on Philippines and on its 200 SEZs established between 1995 and 2005. These developing zones created more than 4 million jobs in the country, though these industrial areas are located in few specific regions of the country. Sanders and Brown use an economic model called modified Harris-Todaro model[2] and the geographic information system (GIS) to analyse the internal migration flow generated by the creation of SEZs. The

[2] The authors use this model to understand "the origin, destination, magnitude and direction of migration flows in the Philippines between 1995 and 2005" (Sanders & Brown, 2012 p148).

researchers, firstly, display that a great variability on the number of workplaces created is present among the different SEZs as some of them are labour-intensive industries (e.g. apparel) and, consequently, generate an elevated number of workplaces, whereas others are capital-intensive industries (e.g. engineering) and require a lower number of employers. It is then delineated that the number of jobs created in the regions where SEZs are specialized in manufacturing has increased substantially since 1995, and these areas are reported to have the highest number of workplaces in all the country. Nevertheless, it is interesting to look at the data which show that the level of unemployment in the territories with a high percentage of developing zones increased steeply since the enforcement of SEZs, and that, at the same time, the population growth of this part of Philippines,grew more in comparison to other parts of the country. Standers et al (2012) therefore, prove that the population growth rate almost entirely depends on migratory flows. The authors, through the Harris-Todaro model and the GIS, suggest that the internal migratory flows of people witness mainly rural workers moving from villages to cities where labour intensive SEZs were set, the sharp increase of residents however exceeds the number of workplaces and thus the unemployment rate augmented too. The authors thus claim that SEZs allocations have had dramatic consequences, since they amplified inequalities among regions, population growth, available workplaces and consequently migration (Sanders & Brown, 2012).

However, heterogeneous results can be found, for instance, in contrast with the studies reviewed above: Aggarwal (2007) argues that in India SEZs are not generating impressive migratory flows since, through her studies based on a sample of SEZs' workers, she found that only around the 20% of her sample migrated to the zones (Aggarwal, Impact of Special Economic Zones on Employment, Poverty and Human Development, 2007).

3.1.4 Poverty reduction

SEZs, in several studies, are accounted as instruments to reduce poverty in developing countries. The establishment of developing zones has, as direct consequence, the creation of infrastructures, of job opportunities (mainly in case of labour intensive SEZs), economic development and industrial growth; consequently, indigenous populations benefit from new economic opportunities, creation of workplaces and the chance for poor and unskilled workers to be employed (Karunaratne & Abayasekara, 2013; Gibbon, Jones, & Thomsen, 2008).

Researchers have tried to assess the bonds between developing zones and their effects on indigence contraction, evaluation frequently carried out through the employment of proxy

variables. The usual proxy variables deployed are: per capita expenditure on economic services and on social and community services, household consumption expenditure, infant mortality rate, life expectancy and GDP per capita. However, several studies have asserted that the impact of SEZs on poverty level varies accordingly to the proxy variable used, thus incongruous results could be found. Additionally, a great number of investigations on SEZs relays on wages' data in order to assess whether workers are living below or above the poverty line; on the basis of these computations, they identify whether developing zones positively affect population development and contribute to reduce poverty. Still, results vary from country to country and homogeneous findings measuring the effects of SEZs on poverty do not exist (Magombeyia & Odhiambob, 2017; Magombeyi & Odhiambo, 2017; Baghebo & Emmanuel, 2015).

A stream of literature identifies a strong bond between SEZs' workers salary and poverty decrease. A noteworthy country-base study is that of Karunaratne & Abayasekara (2013). This investigation stems from both primary and secondary data and aims to identify a pattern for the influence of SEZs on poverty in Sri Lanka. Through interviews of managers and employees who worked either in SEZ or not, and from statistical data on employment in developing zones, the authors found a variety of effects of SEZs on population and on poverty. The two researchers claim that the main SEZs' outcomes contributing to reduce poverty were the generation of direct and indirect employment, health care benefits and training programs. Consequently, the poverty reduction effects of SEZs, according to these authors, is deeply connected with the wage and health benefits that SEZs workers acquire in connection with their working positions, even though it must be noticed that a great majority of benefits are reserved only to employees with seniority level or manager positions. Additionally, poverty reduction is considered achieved also through indirect effects. As a matter of fact, SEZs can boost the economic activities of the areas nearby, since many businesses are originated to offer services to SEZs' workers and industries. All these effects are positively correlated to poverty reduction; however, doubt about the effectiveness of SEZs arises when comparing SEZs effects to the ones generated by industries outside them. Indeed, some features, as health care, nutritional situation and employment duration, appear to be better outside the zones (Karunaratne & Abayasekara, 2013).

Another interesting analysis based on Bangladesh's SEZs compares the level of the monthly earnings of SEZs' workers with the level of income that identifies the poverty line. This study reports that the percentage of people employed in SEZs who are below the poverty line (12.8%

of SEZs' workers are considered moderately poor and 2.5% of them are defined extremely poor) is lower than the percentage of urban inhabitants below the poverty threshold (in this case, the 19% of employees are reported to be under the indigence line). These data, consequently, suggest that the level of wages earned by SEZs workers contribute to reduce poverty (Zohir, 2001).

These investigations are validated by another analysis on Bangladesh, which asserts that the level of poverty of SEZs workers is far inferior than in any other worker category. The research computes that, on average, wages earned by SEZs employers are higher than those of other workers and 4.14 times above the poverty line (workers employed in industries outside SEZs or self-employed earn wages that are 2.35 times the poverty line). Consequently, SEZs' employees have more chance to save money and thus more possibilities to lift themselves out of poverty.

Another stream of literature claims that SEZs contribution to poverty reduction is considered too limited to affect the overall situation of a country, either because the number of workplaces is numerically low or because some SEZs tend to employ skilled labourers who already enjoy fair living standards (Kabeer & Mahmud, 2004; Cling & Letilly, 2001).

In contrast with the above-mentioned authors, other studies strongly assess that the presence of SEZs does not increase human well-being. Jenkins et al (2015), through an analysis evaluating the characteristics and effects of SEZs, and employing a Probit model based on the Indian 2001 Census, provide evidences that generally, developing zones are located in already urbanized areas, generate lower fiscal revenue and do not increase employment or well-being. Moreover, it is argued that as SEZs tend to be located in areas already industrialized, companies could be prone to relocate their business in developing areas just to benefit from the fiscal incentives without creating any real positive spill over effect. Moreover, the authors warn that this type of location policy will augment the disparity between developed and non-developed regions (Jenkins, Kennedy, & Pradhan, 2015). Likewise, Alkon (2016), employing the covariate propensity score matching, claims that in India there are no spill-over effects on the area nearby SEZs, as the location of developing zones has been determined on the basis of political needs and is influenced by state-owned corporations (Alkon, 2016).

3.1.5 Living conditions

Living conditions are regarded as significant aspects to examine when the aim is assessing the human development condition and poverty situation. In order to analyse the living conditions in conjunction with the impact of industries and SEZs on human well-being, various proxy data have

been employed; these are, for instance, transport facilities, housing conditions, health conditions and education of children of labourers. However, there are not objective and all-comprehending findings and a high variability between countries and zones is reported (Aggarwal, Impact of Special Economic Zones on Employment, Poverty and Human Development, 2007).

A stream of literature, in order to analyse the living conditions of SEZs workers, gives emphasis to their housing and transportation facilities. Aggarwal in 2007, through surveys handed out to 229 SEZs' workers of the three most important Indian SEZs, found that employers do not provide any accommodation, as dormitories or hostels, to workers and thus employees need to pay their accommodation at market prices. The researcher, however, highlights that there has been an improvement on the overall housing condition and living standards, since workers who live in Kutcha houses decreased from 43 to 34 and an increasing number of them live in pucca houses (from 168 to 182). Moreover, SEZs augmented the possibility to have electricity, access to drinking water and sanitary facilities. Health conditions seem to be better as well; in fact, through the surveys, workers declared that they did not suffer from any illness. Workers' better health conditions could be connected to the chance of workers to afford healthier food, access to doctors and benefit from respectable working conditions. Looking at the transportation facilities, surveys point out a great difference between zones. If some of them offer buses, ferries or allowance, others do not and workers need to spend part of their salary to afford the means of transportation to reach the work place; consequently, this could result in a problem for those people who earn a low wage (Aggarwal, Impact of Special Economic Zones on Employment, Poverty and Human Development, 2007).

In contrast with Aggarwal's research, a study on Dominican Republic, which compares the living conditions of workers inside and outside SEZs' industries, sustains that the living conditions inside the zones are worse than both the national average and than those of formal workers. The study found out that the number of SEZs workers who live in wretched house is twice as large as the national average; moreover, the overcrowding is far higher in SEZs areas, since 25% of workers live in house where there are 3 to 4.5 people per bedroom (Kabeer & Mahmud, 2004). This research has been corroborated by Gibbon (2008). The author, through a systematic review, concludes that, even though a great number of industries offer workers an accommodation in dormitories, this solution has been often criticized, due to the poor and inadequate health conditions of the building, which are densely populated. For this reason, Gibbon reports that, in

some countries, as in the Philippines, SEZs' managers stopped to offer dormitories to workers, both to reduce the density and to render the unionisation more difficult; still, they do offer buses to pick up employees (Gibbon, Jones, & Thomsen, 2008).

In line with the just mentioned researches, Ngai (2004) describes how accommodation facilities for workers are employed to increase workers' productivity. The term "dormitory labour regime" describes at a glance the situation. In Shenzhen's SEZ (China), the majority of workers lives in dormitories provided by employers; although in these constructions an accommodation is offered, a tight bond between work place and employers is forcibly created and managers gain a high control over workers' lives. Additionally, the living conditions of workers in these building seem to be poor given that, for each apartment, there are about 50 workers and the houses are built of poor quality materials. Moreover, in Shenzhen SEZ, workers who are migrants are considered temporary residents and citizens of their previous villages, thus, they cannot enjoy education, infrastructural services or basic rights as marriage and childbirth registration; likewise, relatives cannot live in the area if they do not have a job (Ngai, 2004).

The study of Zohir (2001) validates the above reviewed researches. The author based his study on surveys handed out to 230 male and 227 female workers of Dhaka's SEZ in Bangladesh. He showed that most men live in mess and most women share the room with relatives, while only a small percentage of them started living alone or in mess. However, the researcher shows that SEZs workers are more health conscious and provide themselves healthier food; nonetheless, a great majority of SEZs' employees reported illness related to the work place as headache and chest pain. These diseases are considered by the author as consequences of the long shift hours, lack of sleep and of living facilities (Zohir, 2001). From other surveys handed out to employees in Sri Lanka, it is clear that the satisfaction of SEZs' workers is low, as the working conditions are considered unsatisfactory regarding overtimes schedules, prices of food and transportation and absence of any benefit (Karunaratne & Abayasekara, 2013).

3.1.6 Bargain power of labour

Bargain is advised as a procedure of solving disputes among workers and managers. Nowadays the most common mean through which the bargain power of labour expresses itself are trade unions and all the other processes of collective bargain. Unions and firms' managers, through bargain procedures, decide upon employment, wage and, more generally, upon on all the relevant elements that characterize working conditions. Freedom of association and collective bargain is

thus evaluated as a fundamental right of workers, needed to counterbalance the employers' influence and to ensure the respect of workers' rights, good working conditions, fair wages, collectively safeguard workers interest, productivity standards and human well-being. (Dau-Schmidt & Ellis, 2010; McDonald and Solow, 1981 in Brock & Dobbelaere, 2006; Aggarwal, 2007; Mireri, 2000).

Many reports on bargain power of labour in SEZs often hold that, inside developing areas, there are evidences of a repression of freedom of association. Indeed, in these areas, the presence of unions is subject to the control of the government or of managers; consequently, it is straightforward that the violation of freedom of association is a problem for the human development of workers. ILO's (2014) report confirms that, in some countries, there is disparity between the labour law's legal framework and its application in SEZs. Accordingly, workers in SEZs are hardly unionized, do not have the right to strike or any other bargain power. Worryingly is also the entrepreneurs' propensity to locate their industries in SEZs to benefit from the inadequate application of union regulations (Gibbon, Jones, & Thomsen, 2008). This picture is even worse when it is underscored that the repression of workers association is often violent and characterized by suspension, transfer, unfair dismissal and harassment of trade unions' members (ILO, 2014). Furthermore, the picture gets more dramatic, as it has been reported that governments leverage on the limits imposed to unions' organization and on the non-implementation of labour rights to attract a considerable number of investments in developing zones. Restrictions to trade unions is a widespread phenomenon and it has been witnessed in several countries as Ireland, Malaysia, Mexico, Dominican Republic, Mauritius, Jamaica, Sri Lanka, Guatemala and Kenya. It has been also reported that companies sometimes used to relocate when workers start to be unionized (Amengual & Milberg, 2008).

These recriminations to unionized workers are confirmed by the study of Sen & Dasgupta (2008) who found that, through a survey carried out to 615 workers of the region of Delhi, Gujarat, Haryana, west Bengal, Maharashtra, inside SEZs, workers who are part of trade unions are on percentage fewer than those outside. Moreover, unionized SEZs workers have lower wages, higher fear to lose their job and, overall, enjoy less benefits (Sen & Dasgupta, 2008). Cirera and Lakshman (2017) research reinforces the above cited analysis. In their systematic review, they focus their attention, among others, on freedom of association and workers' rights. The authors agree that workers' union, inside zones, have been discouraged and/or repressed. Nevertheless,

they examine studies that compare unionisation inside and outside zones and found that often similar rate of unionization are reported. They thus arise the dilemma that the denial of freedom of association rights is a common phenomenon even outside zones, and therefore, could be ascribed as a country issue due to a failure of its labour institutions (Cirera & Lakshman, The impact of export processing zones on employment, wages and labour conditions in developing countries: systematic review,, 2017). These findings are confirmed by the study of Kabeer and Mahmud (2004) and of Mireri (2000). Kabeer and Mahmud (2004) comparing workers status inside and outside the developing zones of Dhaka (Bangladesh) discovered that both the groups of workforces were scarcely unionized (in both cases, no more than the 5% of workers were unionized) but in the meanwhile, SEZs workers enjoyed better working conditions (Kabeer & Mahmud, 2004). Mireri (2000), through interviews and questionnaires carried out to SEZ and non-SEZ employees, affirms that unions are narrowly active in Kenya. The researcher reports that inside SEZs, unions are often repressed or prohibited even though, legally, they should be allowed. However, Mireri asserts that the percentage of unionized workers inside and outside SEZs is similar (respectively 18.4% and 17.6%). The low percentages of unionization in SEZs are conveyed to be generated by both negative attitudes of managers towards these associations (as they feel threatened by unions and see them as a source of lower productivity) but also by unions' internal problems, such as scarce leadership, ineffective representation and amoral unions' delegates. The government has to be considered a cause of this situation as well, as it had not put efforts in increasing the level of unionization and facilitating workers in joining them (Mireri, 2000).

Another research that corroborates the picture delineated above is the one of Zohir (2001). Through a study based on surveys handed out to 230 male and 227 female workers of Dhaka's SEZ in Bangladesh, he attests that the developing zone does not allow trade unions and the relation between managers and employers are regulated by government instructions, committees and a labour relation's tribunal. However, this procedure is a violation of Bangladesh' legal framework as the country subscribed the "ILO Freedom of Association and Protection of the Rights to Organize Convention, 1948 (No. 87) and the Right to Organize and Collective Bargaining Convention, 1949 (No. 98)" (Zohir, 2001, p. 53) (Zohir, 2001).

The Indian legal situation is fairly different than the one above described. The 2012 ILO's report affirms that, as Indian SEZs are a public utility, the Industrial Dispute Act restrictions to workers'

rights are formally established. Moreover, even though the country recognizes the Trade Union Act, 1926, and Industrial Disputes Act, 1948, and thus the creation of trade unions and collective bargain procedures is legalized, in several SEZs these rights are not respected, unions are repressed, and some States decide not to subscribe the Trade union Act for SEZs. Consequently, in some of the Indian SEZs, workers trying to organize themselves are discouraged both by investors and by the government, whereas, existing trade unions' delegates are prohibited to attempt to organize developing zones' employees. (ILO, 2012). The review of the study of Aggarwal (2007) allows us to have a comprehensive overview of Indian SEZs' workforce bargain power. The author, as stated above, interviewed workers and entrepreneurs of 75 industries in the three largest Indian SEZs: Noida, SEEPZ, and Madras which, in 2007, were the most important zones in terms of exports and employment generated in India, and she found that only a limited number of factories has an internal union. However, the author stresses that some proofs testify that the bargain power of labour may only marginally depend upon the unionization of workers, as it could also be considered a variable of the success of the SEZ's industry: indeed, if the factory is highly specialized and requires an elevated number of employees, then the bargain power of the workforce increases. Nevertheless, even though SEZs' workforce is not unionized, it is not straightforward that working conditions and wages are negatively affected, since labour conditions depend unilaterally on managers' decisions and thus good internal norms could be set (Aggarwal, Impact of Special Economic Zones on Employment, Poverty and Human Development, 2007).

In conclusion, it should be marked that SEZs' workers' unionization has not shown great progresses during the years. Only scarce and localized improvement can be noticed; as a matter of fact, in Bangladesh there has been an amendment of the labour law, and the new norms should encourage unionization. International pressure has been made on SEZs in the Caribbean and in Central America; in Madagascar SEZs employees confirm that unions exist and it is reported that unionized workers rate is fairly high, even higher than in the private formal sector. Moreover, international institutions have tried to encourage entrepreneurs worldwide to establish factories in SEZs where there are unions and to not relocate the firm if workers manage to establish a union (Amengual & Milberg, 2008).

3.1.7 Working conditions and labour standards

The analysis of working conditions has been here broken down in two main variables, which let us have a better comprehensive picture; firstly, SEZs employees' working hours have been

examined and, afterwards, the issues connected to safety and health's norms enforcement have been reported.

3.1.7.1 Working hours

Overtimes and long working hours are considered a drawback that characterized developing zones worldwide. Employers' long working schedule often violates national law. Moreover, there is evidence that testifies that extra shifts are compulsory and not adequately remunerated**.** (Cirera & Lakshman, The impact of export processing zones on employment, wages and labour conditions in developing countries: systematic review,, 2017; Amengual & Milberg, 2008).

Amengual & Milberg (2008) validate the above statement. Through a report aimed at integrally analysing working situations of SEZs' employees, they demonstrated that in several countries working schedule's legislation is violated. The authors testify that in Sri Lanka, Madagascar and Cambodia labours use to work a quantity of overtimes substantially superior than the maximum limit imposed by the legislation. The 2001 study by Cling et al is in line with Amengual & Milberg's paper and confirms that in developing zones, on average, employees work up to 9 hours more that those worked in industries outside SEZs (Jayaweera, 2003; International Labour Organization, 2007; Glick and Roubaud, 2006; Verité, 2004 in Amengual & Milberg, 2008; Cling & Letilly, 2001).

The overall picture seems to be even more serious when the analysis casts light on some managers' practices that aim to drive employees to work overtimes. As a matter of fact, Amengual & Milberg (2008) convey that in China workers are subtly forced to do extra shifts, since companies pay workers' wages lower than the legally approved ones and do not allow a fair standard of life. Eventually, the overtime's earnings represent a relevant portion of the total salary, and thus managers indirectly force employees to work extra hours (Amengual & Milberg, 2008). The International Confederation of Free Trade Unions (ICFTU) supports the previous finding as it draws attention to the habits of companies to encourage employees to work long working hours through low payments and tight delivery schedules. The ICFTU, at the same time, underlines that many companies in SEZs set compulsory and unpaid overtime; this practice is said to persist as trade unions, controls and inspections are lacking (International Confederation Of Free Trade Unions (ICFTU), 2004).

Another stream of literature emphasizes the connection between the dearth of norms on working hours with the nature of the sector where the SEZ's companies belong to. As a matter of fact,

some companies, have tighter deadlines than others and thus require a higher level of productivity and, consequently, of overtimes. It is reported that industries as the apparel, footwear and textile ones, need to respect shipping deadlines and have seasonal peaks, thus, without extra hours, quotas became unrealistic. This pattern is confirmed by the International Textile, Garment and Leather Workers' Federation (ITGLWF) which states that SEZs' tight schedules and low selling prices result in the employment of workers for long hours and for low payments (Amengual & Milberg, 2008; International Confederation Of Free Trade Unions (ICFTU), 2004, ILO, 2002; ITGLWF in ILO, 2002).

The situation in India appears to be slightly better than the ones abovementioned. Aggarwal's (2007) study already reviewed in the previous subsections, clarifies that, in India, workers are not allowed to work more than 48 hours per week and 9 hours per day, likewise, long working hours have to be paid twice the normal salary. The author, through interviews with a sample of workers of selected SEZs, confirms that in the sample almost all the workforce does not overreach the legal threshold and only a small group of employees works up to 60 hours per week. Aggarwal then asserts that compulsory extra hours are not requested, whereas optional overtimes practices are common amongst all the SEZs of the sample group, however, only a small part of the sample confirms that overtimes hours were payed accordingly the legal framework (Aggarwal, Impact of Special Economic Zones on Employment, Poverty and Human Development, 2007).

Better circumstances are underlined by Mireri's (2000) analysis. In his study on Kenyan SEZs he claims that the 70% of workers do not work overtimes and only 10% of employees work more than 49 hours per week (in Kenya, the labour law institutes that employees can work a maximum of 45 hours per week). The author argues that the percentages are worse outside SEZs, as the 18% of the workforce is systematically employed more than 49 hours per week (Mireri, 2000).

3.1.7.2 Health and safety

Employees must to be entitled to operate in environments where the exposure to dangers is controlled and where an adequate assistance is offered. Appropriate social infrastructures are essential to increase workers and managers' performances. However, developing zones only rarely are reported to apply health and safety legislations (ILO, 2002). The inadequate enforcement of labour laws occurs despite ILO's frameworks, which legislate that SEZs' workers need to be protected from injuries and diseases connected to the worker environment, and that employers have to create safe working conditions. The negligence on the implementation of safety

norms creates physical, social and ergonomic consequences. Moreover, the excessive working hours and overtimes practices above mentioned are considered as negatively impacting workers' psychological health. The 2014 ILO's report, confirming that many firms in developing areas do not apply safety and health standards, provides some examples. For instance, in Morocco frequent safety problems are reported as consequences of scarce equipment and lack of awareness about safety procedures; moreover, as there are scarce control and inspections, improvements are perceived as not feasible in the short term. In Togo, the same problems can be observed, whereas in Nigeria, only few companies are reported to apply safety rules (ILO, 2014). Likewise, Amengual & Milberg (2008) report that many factories in developing zones fail to provide safe working environments. Many examples have been described: in Guatemala and Mexico, SEZs based companies fail to apply health standards, in Bangladesh several fatal accidents occurred inside SEZs as a consequence of poor safety conditions (Amengual & Milberg, 2008; ICFTU in Amengual & Milberg, 2008). The research by Liberato and Fennell (2007) validates the aforementioned workers' status. Through a logistic regression analysis, they examine how developing zones' working environments influenced employees' health in Dominican Republic. The data for this study stems from the 1996 Demographic and Health Survey (DHS). The results show that SEZs have negative effects on workers' health and cause a high number of hospitalizations and illnesses (Liberato & Fannell, 2007).

3.1.8 Female Situation

The 2014 ILO's report illustrates that the majority of workers in developing zones are women (on average, in SEZs women are the 70% of the total workforce, but this share can even reach the 90% and these percentages seem to be consistent since the beginning of SEZs activity). The rationale behind this circumstance is that female employees are perceived as a workforce who requires low payments, is rarely unionized, is less prone to cause problems or rise up against the precarious working conditions (ILO, 2014; Milberg & Amengual 2008; FIAS, 2008). Consequently, women are considered in the lower end of SEZs' workforce and usually have inferior wages and higher turnover than men. This implies that they are not economically self-sufficient and cannot afford quality foods or basic healthcare services (ILO, 2014). However, the 1998 ILO explains that even if the working conditions offered by employers to women are worse than those of men, overall, they benefit from the enforcement of developing zones as most of them could not have found a job in the formal sector (Madani, 1999; ILO 1998 in Madani, 1999).

In addition, the feminization of SEZs seems to be directly influenced by the type of skills required in the sector where the SEZ's companies belong to. For instance, when firms require high skilled employees, the share of women hired on total workers is low. (Milberg & Amengual 2008). The 2012 ILO supports the above studies and claims that women are mostly employed in labour-intensive industries as in the assembly departments of garment and electronics factories. Besides, the report states that women usually do not have benefits as the maternity leave (moreover most factories tend to fire them if pregnant) and face sexual harassment (ILO, 2012)

This tendency is confirmed in India as well. Aggarwal (2007) argues that a higher number of women are employed in developing zones' companies rather than in the formal sector. The author, in order to analytically address the problem, compares female employment rates in SEZs with the employment figures of the Indian formal and informal sectors. The information processed was retrieved by the Annual Survey of Industry and by National Sample Surveys reports. The study asserts that the number of women hired in SEZs is higher compared to the figures of those employed in the formal sector but lower relatively to the figures of the unorganized one. The researcher claims that, as the unorganized sector is characterized by lack of safety, absence of basic health conditions and environmental standards, low wages and deplorable working conditions, SEZs offer to women the chance to become part of the formal sector; however, it has to be outlined, that even in developing zones, women have scarce bargaining power and consequently are often exploited (Aggarwal, Impact of Special Economic Zones on Employment, Poverty and Human Development, 2007).

3.1.9 Comments

From the present literature review it could be evinced that a number of spill over effects exists. Although the existing studies developed researches which have looked deeply into SEZs influences on human development, none of them directly evaluated the effects of developing zones on household consumption patterns. Besides, it has to be outlined that most of the researches derives from primary data or aims to create a comprehensive knowledge on the theme through systematic reviews, whereas, few of the analyses are based on analytical and statistical estimations. Therefore, this research, aiming to assess the influence of SEZs on consumption patterns of household and applying statistical techniques, becomes an important part for the overall understanding of SEZs' influence on human well-being.

3.2 Literature review on Gujarat

The preparatory analysis of this part of the review showed that the body of knowledge about the impacts of SEZs on the region of Gujarat only briefly and marginally touch upon issues that are relevant to the impact of SEZs on human development. Given the dearth of researches on Gujarat, this part of literature, will only concisely convey upon the State's SEZs but will also review other more general studies on Gujarat.

Gujarat has been studied by many authors for its outstanding economic growth. As Das and Pradhan (2016) suggest the government of Gujarat showed a pro-business culture, as matter of fact, it is reported to have adopted several reforms that permitted the industrial development and an outstanding business environment which have, consequently, encouraged FDI and also national and international competitiveness. Among the reforms applied to achieve these results, the authors highlight the 2004 Gujarat SEZ act, SEZ rules and SEZ regulations. Moreover, analysing the industrial history of the State, it is argued that Gujarat's SEZSs development did not follow the traditional industrial location theories as the intervention of the government, through its policy, encouraged the expansion of industrial sectors in districts which did not have a past industrial history in that specific sector aiming to better respond to international demand' trends (Pandit & Chari, 2011); all these conditions created the concept of Gujarat model of development (Pradhan & Das, Manufacturing Exports from Indian State, 2016).

The "Gujarat Model" acquired great relevance before the 2014 polls when Modi, present prime minister of India and ex Chief Minister of Gujarat, took its State remarkable economic development and its status of central hub as a political campaign's instrument. As matter of fact, Gujarat's growth has been boosted by business favourable labour and land legislations, good governance, investment in functional infrastructures, financial incentives and reforms. All these conditions encourage companies to relocate their activities into Gujarat's State and SEZs. Haldar and Deakin (2015) suggest that, in the industrial development of Guajrat, great importance have had the reform of the labour legislation which created flexible labour norms. Noticeably, in contrast with the elastic principles of the labour law of Gujarat, the labour framework of India has been considered as old and rigid, and blamed to discourage investments as it does not permit the employment of low cost labour. Consequently, these researchers suggest that, in the rest of India, labour informality is indirectly encouraged and in the meanwhile, since the country's labour

regulation targets meanly large companies and factories, the growth of Indian industries and FDI are discouraged (Deakin & Haldar, 2015).

Although Gujarat's deregulatory laws and investor-friendly legislations have been considered a prototype that positively influences the economic development, in this Indian State, social development is still lagging (Deakin & Haldar, 2015). Hirway And Shah (2011), analysing the labour trends in Gujarat, emphasize that the economic state growth is not mirrored by an equal increase of the labour productivity, of wages and employment. The two authors claim that the capital-intensive model of progress adopted by the State of Gujarat caused a steady declining in the employment per unit of output. Indeed, examining the employment structure, researchers noticed that, even though the workforce participation rate in Gujarat is higher than the Indian average, the strong growth in the State domestic product, which mainly originates from the secondary and tertiary industries, is not coupled by the same growth in the employment (table 5):

Table 5: Sectoral share of SDP, Employment in Gujarat and India

No	Sector	Gujarat SDP % Share		Gujarat % Share in Employment (P + SS)		India % Share in Employment	
		2004-05	2008-09	2004-05	2008-09	2004-05	2008-09
1	Primary	18.33	14.8	49.9	54.4	54.09	57.3
2	Secondary	37.98	37.1	24.4	22.3	19.64	18.7
3	Tertiary	43.69	48.1	25.7	23.3	26.29	24.1

Source: Hirway & Shah, 2011

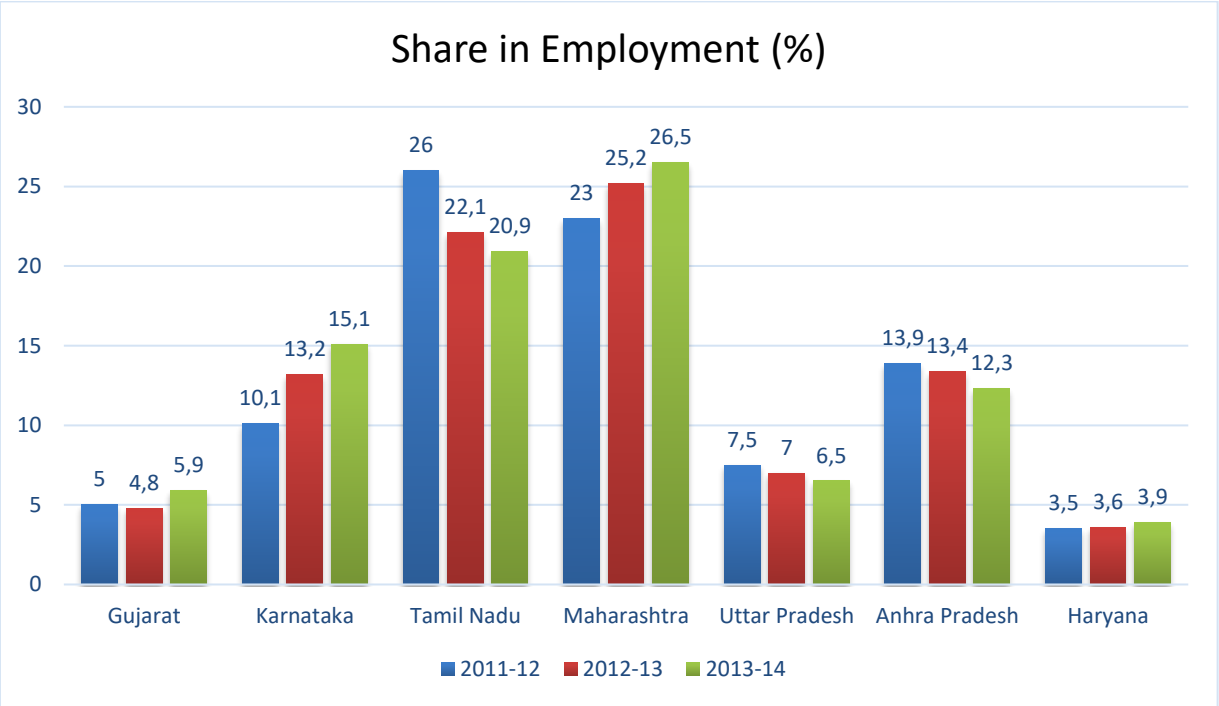
Moreover, this study underscores that even though the amount of investments in the State augmented, the trend it is not mirrored neither by a rise in the number of factories nor by an increment in the wages share which, instead, declined. These circumstances highlight that the earnings of workers, in Gujarat, is not a variable directly depending on economic and productivity growth.

Furthermore, Hirway And Shah (2011), through the inspection of data on elasticity of poverty reduction to growth, health index, hunger index and poverty analyses, argue that the lagging human development and the limited social welfare are connected to an iniquitous employment environment. Indeed, Gujarat witnesses a huge share of informal workers, a sharp disparity on the amount of wages between the workforce and the upper class, unbalanced legislative favouritism

to capital intensive industries and overlooked labour conditions and wage levels. Consequently, Gujarat has poor performances either in the decrement of poverty and in the increasing of welfare (Hirway & Shah, 2011).

These studies have been confirmed by other authors, for instance, Mukherjee et al (2016), analysing the data published by the Indian ministry of Commerce and Industry, claim that, in Gujarat, the level of employment and SEZ's export performances are totally uncorrelated. In fact, Gujarat, which accounts for almost the 50% of total SEZs' Indian exports, only accounts for the 6% of the country employment (Mukherjee, Pal, Deb, Ray, & Goyal, 2016) (graph 4):

Graph 4: State-wise contribution to employment from SEZs top 7 Districts



Source: self-elaboration based on Mukherjee, Pal, Deb, Ray, & Goyal, 2016

Other researchers estimate the level of wages in Gujarat relatively to similar regions. These analyses claim that the level of salaries in Gujarat is lower than the Indian average and could be comparable with the poorest region of the country (rural wages are 20 % lower than the Indian average and urban wages are 15 % lower than the Indian average) even though its per capital income is way higher than the Indian average. The authors, thus, affirm that the bargaining power of employers is weak and the model of development privileges business investment and economic

development rather than citizens well-being as it does not take into account workers conditions and human indigence situations across the regions (Chandrasekhar & Ghosh, 2014).

A different research perspective has been taken by Jenkins et al (2014). These authors identifies the negative impact that SEZs creation caused on local communities in connection to the relocation of lands. In Gujarat, state owned industrial corporations, to allow the expansion and creation of SEZs, since the 2004 have acquired more than 55,000 hectares, of these, it has been calculated, almost 60% were cultivated. The dispossession and the establishment of SEZs in these areas generated disappointment among locals as the founding of developing zones caused villages to be deprived of cultivable lands, sources of fuel wood, charcoal natural sources, farmland, fishing areas, herding grounds and mangrove forests. All these elements impacted the local communities who become economically vulnerable as it depends on agricultural activities and on businesses connected to the exploitation of natural resources and land (Sharma, 2009; Asher, 2014; Sood, 2015; Shah, 2009).

Moreover, since the industrial townships created do not respond to the usual legal authorities, specific "development committee" was created in 2007. This committee is considered the governing body of the industrial areas and has the same government power of the municipal authorities. However, researchers highlight that the committee never investigated on land acquisitions, neither scrutinised the typology of lands allocated to be dispossessed nor took into accounts locals' claims which, moreover, have been restrained by the government. Interesting is that Gujarat witnessed a scarce level of protests following the allocation of SEZs in comparison to the other states where this procedure caused several agitations. Shah (2009) explains that as a great majority of lands converted in SEZs where exploited by local communities or nomadic tribes the population cannot revendicate any right on them. All these factors were amplified by the inexistence, in India, of a land use policy (Sharma, 2009; Asher, 2014; Sood, 2015; Shah, 2009).

3.2.1 Comments

Although the general effects of SEZs on human well-being could be considered theoretically in-depth analysed, the academic focus on the influence of SEZs on the region of Gujarat can be considered leading to a fragmented body of knowledge focused mainly on specific matters rather than on a systematic all-embracing analytical evaluation. This moreover, highlights the fact that this field of study have not benefitted by a knowledge flow from the general studies on SEZs to

the more focused analysis of specific areas of India. Furthermore, Gujarat's studies are completely missing the investigation of the effect of developing zones on consumption of durable and non-durable goods. For all the reasons stated above, the present study, aiming to analytically clarify the effect of SEZs on human population, will become an integral part of the present literature.

4. Investigation

Given the studies reviewed and the theoretical expectations of the effects of developing zones on human development, the empirical analysis aims to assess the spill over effects of SEZs either at the village level and at the district level in the State of Gujarat. The investigation has not been computed at the aggregate level (State level) as the high variation of developing zones policies in India and on the State of Gujarat would have made meaningless the analysis.

The empirical method employs a two-level analysis. The research, thus, on the one hand, aims to understand the effects of SEZs on education, hospital care, transportation facilities and commercial facilities and, on the other hand, the consequences on household consumption.

Considering the four different types of developing zones in Gujarat (operational, notified, in-principle approved and formal approved) the hereby analysis, have been focused on notified SEZs only as this group of developing zones could potentially have spill-over effects on the population of the surrounding areas (Alkon, 2016).

4.1 Data Overview

The study is based on different types of data:

- *SEZs lists:* the analysis is based on a preparatory identification of the various types of SEZs. The Ministry of Commerce & Industry releases a list of up to date Indian operational, notified, in-principle approved and formal approved developing zones[3].
- *Census data*: these data have been obtained through the website of the Indian Census [4], this platform gives the possibility to download the datasets which collect the information on Indian population.

  The Census catalogue is a source of quantitative figures which revolve around a variety of characteristics of Indian population. The statistics are generated every ten years starting from 1872 and are broken down for districts, town and villages. Information are collected through the systematic employment of enumerators who gather data visiting all the different households.

[3] The list of SEZs is available for public inspection at http://sezindia.nic.in/cms/list-on-notified-sezs.php (Ministry of Commerce & Industry Department of Commerce, 2017)

[4] The dataset used, and which contain the information on all the villages of Gujarat, and can be entirely retrieved at http://www.censusindia.gov.in/2011census/dchb/DCHB.html

The Census data employed for this study has been the one of 2011, thus the last census available as the next one is going to be in 2021. (International Household Survey Network, 2014; Government of India, 2011; Government of India, 2018).

- *National Sample Survey data (NSS)*: The Ministry of Statistical Planning and Implementation and its statistical wing called The National Sample Survey Office are responsible of creating dataset on diverse fields of study for all Indian States. The NSSs are based on primary data collected through national-wide surveys distributed to a random sample of households. These surveys gather information on different types of subjects. The surveys are built on the form of rounds from the year 1950, the rounds are annuals but, based on the type of study there could be more yearly gaps.

  The NSSs employed in this analysis has been the one of the 61st (2004/2005) and 68th (2011/2012) rounds and the data examined were the one connected to consumption expenditures (Ministry of Statistics & Programme Implementation, 2018; International household Survey Network, 2018).

4.2 Methodology and Analysis

4.2.1 Census Methodology

The examination of census data has been carried considering the information regarding rural villages.

The choice to assess the outcomes of developing zones on rural areas arises from various reasons. On the one hand, in the literature review, it has been noticed that a high number of studies is focused not on the state-wide territory but on specific areas; thus, this study aims to be part of the vast stream of literature already existing. Moreover, as the purpose of SEZs is to create human development and economic growth rural areas, this analysis will consider those areas that, more than others, can show this type of improvement.

In the preparatory analysis, a dataset which indicates the villages where SEZs are located has been created with the objective to quantitatively asses the consequences of SEZs on human development by comparing villages which host or are nearby SEZs and those which are not. Nevertheless, it has been theoretically supposed that developing zones are not assigned randomly, and thus the creation of a random sample of villages to compare the control group and the treatment group is meaningless and not statistically consistent. The empirical difficulties to casually assess the effect of SEZs, given the non-random locations of developing zones, has been overcome through the propensity score matching method.

4.2.1.1 The propensity score matching

The *propensity score matching* is employed with the objective to estimate the casual effects of a treatment on the outcome variables when the treatment is not randomized delivered, though the method itself is not the one used to estimate the final effects. The method creates the possibility of generating a match set of observations with similar distribution of covariates and thus permits to create a non-random control group. Although this method could create imbalance, inefficiency, model dependence and bias (Nielsen & King, 2016), it is however considered a valuable method when the matched covariate is not high in number relatively to the number of observations and when the treatment population is much smaller than the total number of observations (this is the case of the present analysis).

The propensity score is defined as the “conditional predicted probability of assignment of a particular treatment given a vector of observed covariates” (Rosenbaum & Rubin, 1983, p. 41),

thus give the treatment D (a binary variable) and x the observed covariates (also pre-treatment characteristics) the model is:

$$\mathbf{P(x) = pr\ (D=1|x) = E(D|x)}$$

where D=1 is when the element received the treatment and =0 when it did not, D is the dependent variable whereas x is the independent one.

So ideally, the research would compare the outcome of the variables of interest of the treated group with the outcome on the same variables on the treated group if they were not treated but, as this assumption introduces a counterfactual factor, the propensity score matching resolve the problem by finding the closest match. The matched observations are based on their propensity score, the matching method used in the herby analysis is the nearest neighbour in its optimal matching and in the 1 to 1 form. In this method, the control and treated observations are matched according to the smallest distance that the analysis finds between the treated individual i and one control observation j,

$$\mathbf{Min\ ||\ p_i - p_j\ ||}$$

the controls observations not matched are then discarded, the optimal matching moreover assures that the order in which the treated individuals are matched do not bias the final outcomes, as it takes into consideration the entire set of observations in order to choose the final match. Then the treatment effect can be analysed as the outcomes y can be compared

$$\mathbf{y} = \begin{cases} \mathbf{y_1\ if\ D=1} \\ \mathbf{y_0\ if\ D=0} \end{cases}$$

In order to formalize the operations, the propensity score matching gives the possibility to estimate the Average Treatment Effects on The Treated (ATT):

$$\mathbf{ATT = E\ (\Delta|p(x),\ D = 1) = E\ (y_1|p(x),\ D = 1) – E\ (y_0|p(x),\ D = 0)}$$

Where:

- **E (y_1|p(x), D = 1)** is the outcome on the treated
- And **E (y_0|p(x), D = 0)** is the outcome on the control group

(Katchova, 2013; Stuart, 2010; Alkon, 2016).

4.2.1.2 Application of the method

In the hereby analysis, the treatment variable D is defined with the presence or not of developing zones and it is presented as a binary variable. The pre-treatment characteristics have been based on the assumption made by previous studies (see Jenkins et al, 2015 and Alkon, 2016) which have claimed that SEZs are located nearby already developed and urbanized areas. It follows that the location of developing zones is not random and it can be explained, to some extent, with a series of confounding variables which tend to respect the definition of developed and urban location given by the Census of India. An area is considered urbanized, if there is "a density of population of at least 400 persons per sq. km., at least 75 per cent of the male main working population engaged in non-agricultural pursuits and a minimum population of 5,000" (Ministry of Home Affairs, Government of India, 2011, p. 2). As the present analysis is based on rural areas, this criterion will not be met by the villages studied, however, it has been assumed that the villages nearby SEZs, as it has been expected that are already developed, are those with a high density, a high population and high percentage of non-agricultural workers. These are the features that mirror a developed area, therefore demographic and geographic characteristics have been considered as good pre-treatment characteristics.

The census dataset analysed presents a number of 12 villages treated, the treatment effects aimed to be assessed are:

- Schools facilities
- Hospital and health facilities
- Transportation facilities
- Commercial facilities

The covariates on which the propensity score is based are

- Density population/hectares

- Total Population of Village
- Total population male:female ratio
- Area under Non-Agricultural Uses (in Hectares)
- Permanent Pastures and Other Grazing Land Area (in Hectares)

This first part of the analysis has been run on Excel through the statistical expansion XLSTAT. Once the propensity score matching has been run, it has been possible to assess the significance of the results through various statistical method, as the ROC curve, Pr > Chi², total cost of the matching operation. Afterwards, when the model satisfied both logical needs and statistical measures, a dataset based on the propensity score matching, which compares the treatment groups with the matched control observations, have been created.

The summary of the statistics of the Propensity Score Matching can be appreciated in Appendix 1.

Subsequently, the estimation of the effects of developing zones on the observations of interests has been computed through the ATT technique on STATA and a Multidimensional analysis on Excel.

The ATT analysis can be mathematically analysed here

ATT = E (Δ|p(x), D = 1) = E (y1|p(x), D = 1) – E (y0|p(x), D = 0)

Where the first term **E (y0|p(x), D = 1)** is the effect on the treated and is subtracted to **E (y1|p(x), D = 0)** which is the value of the same variable of interest but on the control group.

This analysis has examined the significance of the difference of every variable through the T-test whereas the Multidimensional test[5] clarifies the overall significance. For practical reasons, the treated and non-treated villages have been classified, on STATA, according to the dummy

[5] "Multidimensional tests are employed to compare samples described by several variables. Instead of comparing the average of two samples as with the Student t test, here it is simultaneously compared, for the same samples averages measured for several variables; Compared to a procedure that would involve as many Student t-tests as there are variables, the method proposed here has the advantage of using the structure of covariance of the variables and of obtaining an overall conclusion. It may be that two samples are different for a variable with a Student t test, but that overall it is impossible to reject the hypothesis that they are similar" **Specificata fonte non valida.**

variable “group” where 0 means that there are SEZs nearby the village and 1 that the observation is part of the non-treated group.

4.2.2 Census Analysis

The main effects of developing zone on human population are shown below.

The results suggest that SEZs have small effects on the development indicators studied and the single average treatment effects are mostly non-significant, while overall, there are no significance impacts of developing zones on school, health, transportation and commercial facilities of the treated villages. Therefore, even though special economic zones are, by their very nature, elements that should affect infrastructures and facilities and it has been argued that significant spill over effects influence the development of the area nearby them, in Gujarat these outcomes are not present.

However, these results are in line with some previous studies focused on India that outline the lack of infrastructural effect of developing zones as well. Fr instance, Alkon (2016) argues that the small effects of developing zones in the Indian territory are a direct consequence of co-partisan political alignments; this implies that the locations of developing zones are chosen to satisfy the needs of the political class, of state-owned development companies and of numerous State investments which cause corrupted land deals. This author therefore suggests that the presence of State’s investments and political interests highly influence the settlement of developing zones and cause the ineffectiveness of SEZs on the development of villages (Alkon, 2016).

The present analysis, thus, employed two main methods to assess the effect of SEZs on districts: the ATT technique and multidimensional tests – one of those used is the Wilks' lambda[6] technique. The overall results of the Wilks' lambda are shown below (table 6):

[6] “Wilks' lambda is a statistical test used in multivariate analysis of variance to test whether there are differences between the means of the samples on a combination of dependent variables.Testing the equality of the within-groups covariance matrices” (xlstat, 2018, p. np)

Table 6: Wilks' lambda results

	Lambda	F (Observed Value)	F (Critical Value)	P- value	Alpha
Schools' facilities	0,471	1,476	2,646	0,169	0,05
Health care facilities	0,530	1,154	2,671	0,397	0,05
Transportation facilities	0,387	1,727	2,717	0,181	0,05
Commercial facilities	0,884	0,621	2,895	0,653	0,05

Source: self-elaboration based on Multidimensional tests processed through XLstat

The analysis of the effect on the four categories is documented in the sequent sections.

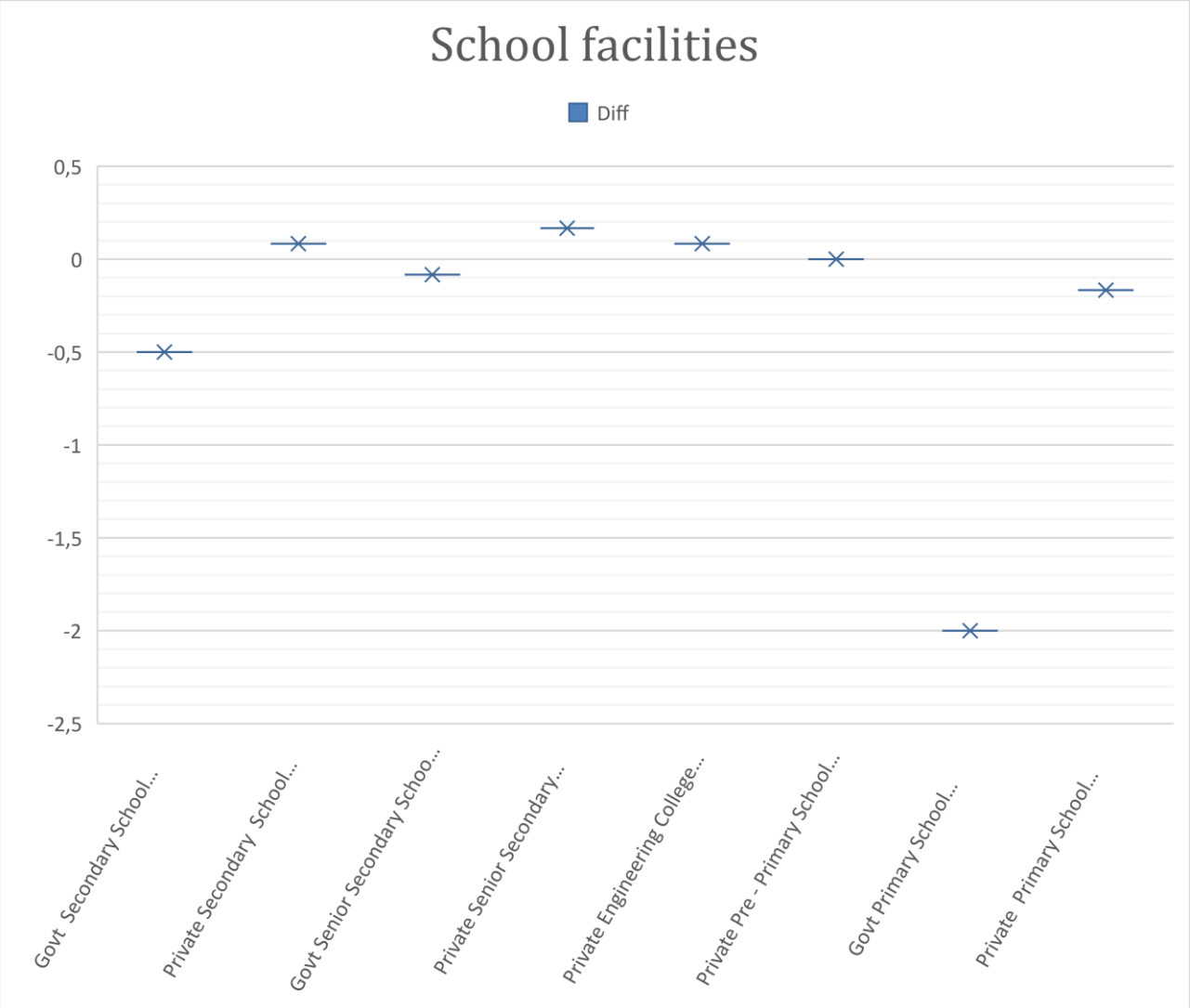
4.2.2.1 Schools' facilities

As far as schools' facilities are concerned, there is a slightly higher number of schools in the districts with developing zones compared to the ones that belong to the control group. However, the T-test suggests that only in two cases the values are significant, namely Government Primary School Numbers and Government Secondary School Numbers. It is nonetheless noteworthy to notice that the difference is negative and thus the presence of schools is higher and statistically significant in the non-treated group.

It is also interesting to point out that the educational level of the school present is either at primary or secondary level, whereas training institutes or universities are absent.

The graph below shows the means differences between the observations.

Graph 5 : means differences of school facilities



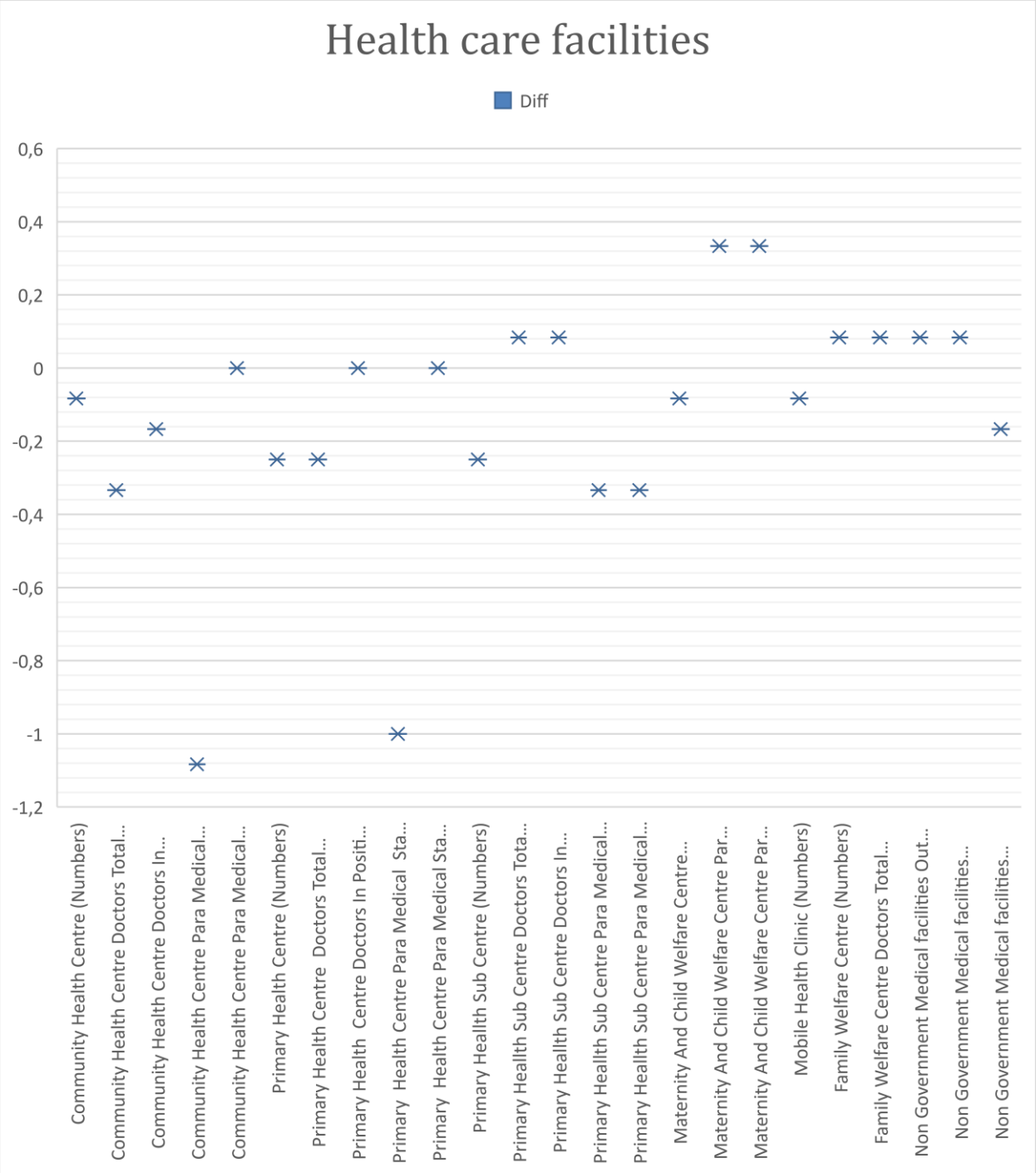
Source: self-elaboration based on ATT results

Considering the overall assessment, computed with the multidimensional analysis of the effects of the presence of SEZs on villages' school facilities, it can be argued that there are not significant results.

4.2.2.2 Health care facilities

As far as the health care facilities are concerned, it is clear, from the results, that developing areas do not affect positively the presence of health centres; the T-test results are never significant and similarly, the multidimensional test shows a non-significant p value. Below, the graph which shows the means differences is pictured.

Graph 6: means differences of school health care facilities

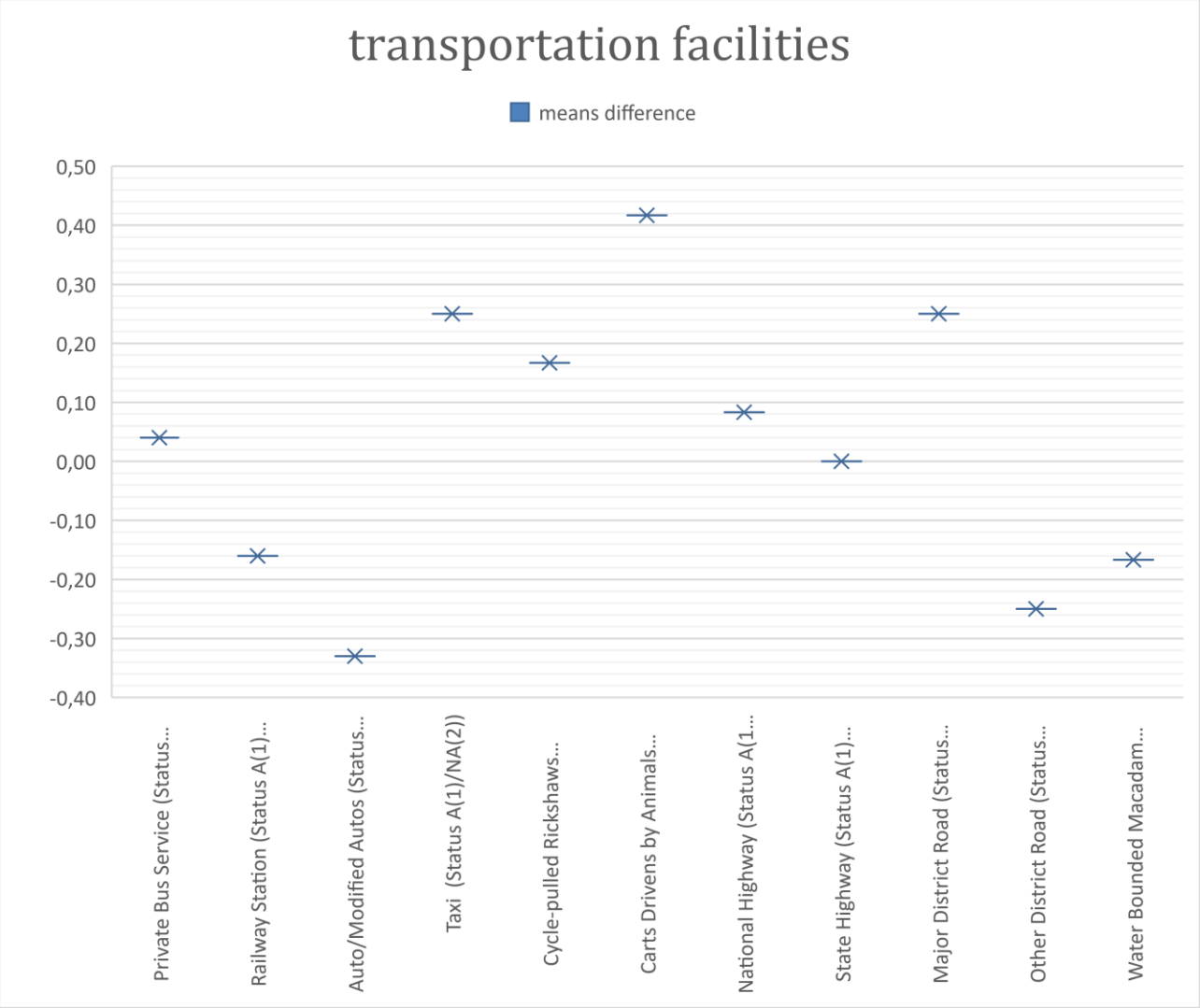


Source: self-elaboration based on ATT results

4.2.2.3 Transportation facilities

As far as the transportation facilities are concerned, the dataset classifies the presence of them as: available = 1 or non-available = 2. The results are overall statistically non-significant, however some particular variables have a t-test significant; this is the case of Private bus service status and Carts Driven by Animals. The difference is here significant, but positive, meaning that the number of villages where it is available is higher in the non-treated group.

Graph 7: means difference of transportation facilities (note that the higher is the value the higher is the number of villages where the facilities are not available)

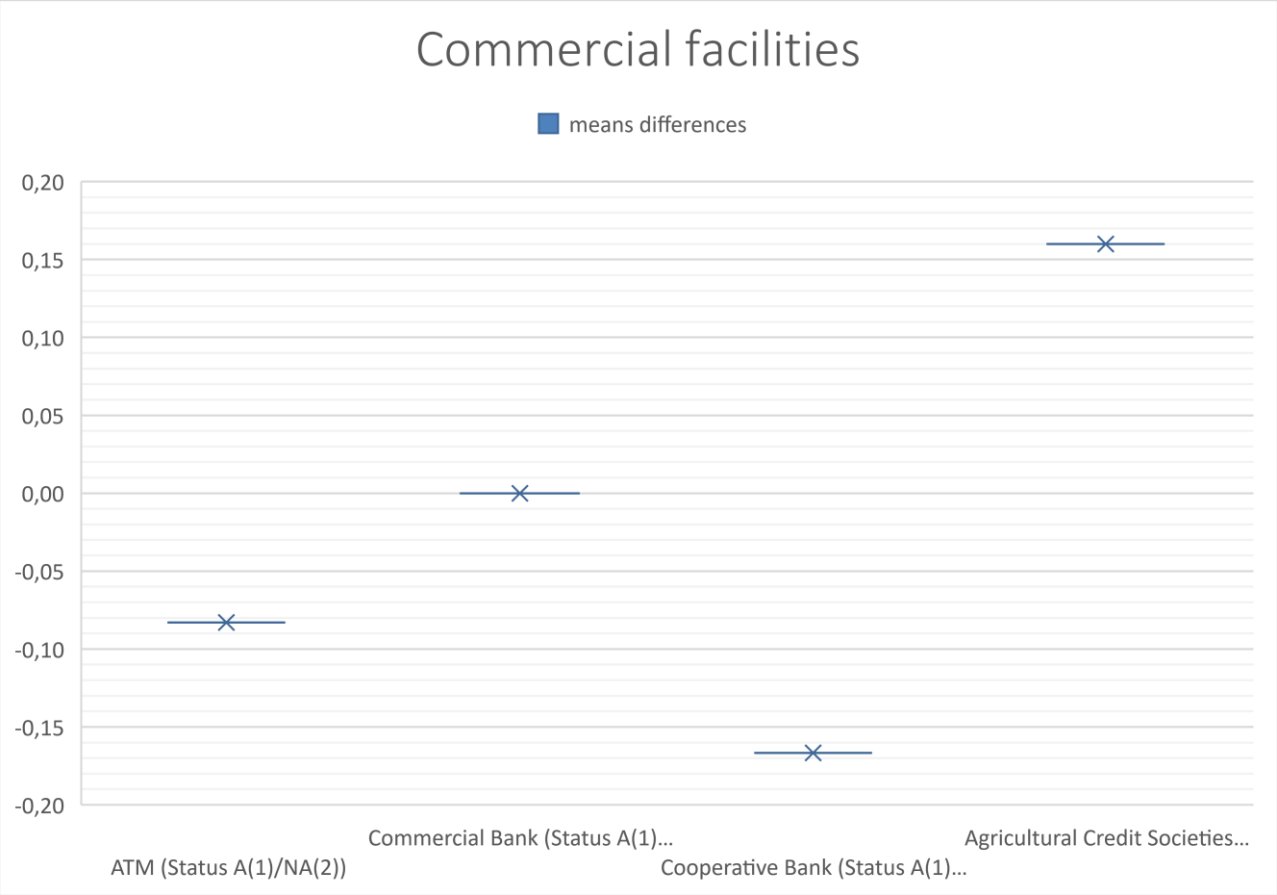


Source: self-elaboration based on ATT results

4.2.2.4 Commercial facilities

As far as the commercial facilities are concerned, results show insignificant impact on treated villages both from the overall assessment and from the singular t-tests. As for as the transportation facilities are concerned, the dataset classifies the presence of them as: available = 1 or non-available = 2.

Graph 8: means difference of transportation facilities (note that the higher is the value the higher is the number of villages where the facilities are not available)



Source: self-elaboration based on ATT results

In appendix 2, a table which shows the t stat, the p value and the mean difference of every variable is attached.

4.2.3 NSS Methodology

This part of the study focuses on household consumption expenditures. The analysis of the different patterns in the level of consumption is considered not only a tool to understand the degree of inclusiveness of economic growth, the level of inequality and poverty among a community, but also to assess the living standards of families.

Given the importance of consumption patterns, these are used as macroeconomic indicator as well, and they will be employed to evaluate the level of investments, the allocation of resources and the consumption's demand elasticity.

In particular, the study will analyse how the SEZs policy, since its implementation in 2004, influenced the consumption of both durable and non-durable goods. In doing this, we will utilize the statistical technique called difference in differences (DiD).

4.2.3.1 The Difference in Differences Method

The difference in differences method examines, in an empirical study, the differential effect of a treatment on a 'treatment group' versus a 'control group'. It calculates the impact of a treatment, independent variable, on an outcome, dependent variable, by comparing pre-treatment and post-treatment differences in the outcome of the treated and non-treated groups. For this reason, the DiD technique demands, both for treatment and control group, data collected at two or more different time periods (Angrist & Pischke, 2008).

4.2.3.2 Application of the method

In the hereby analysis, the treatment group is represented by the districts where the SEZ program was implemented. The control group is composed by the other districts of the State where no SEZ was established. The outcome is the value of consumption. For both treatment and control group, the data used were from two different time periods: round 61st (2004-2005), and round 68th (2011-2012).

Our model is specified as follows:

$$\mathbf{Y_{ist} = \lambda_t + \delta D_t + \lambda t * \delta Dt + \gamma_s + \varepsilon_{ist}}$$

$\mathbf{Y_{ist}}$ is the outcome of the analysis, the monthly value of consumption of goods in the State of Gujrat.

To understand the level of consumption of Gujarat' households, the national sample surveys have been used; NSSs assess the household consumption patterns information at the district level and frames the analysis 30 days prior the interviews. In the NSSs, the consumption patterns are broke-down in two different categories: durable and non-durable goods, which are recorded according to the identification of 32 items groups. Non-durable goods consist in both food and non-food products. The first category of items comprehends cereals, meat, vegetables and fruits, while the second one involves medical and personal care expenses, consumers services and utilities. Among durable goods it is possible to identify household appliances, jewellery, products for recreation and transportation vehicles. However, for practical reasons, the data of the surveys employed in the hereby study have been narrowed down to the aggregate expenditure level and the total monthly expenditure on durable and non-durable goods per household, and they have been afterwards processed. The value of consumption is indicated at current prices at the moment of the data collection, meaning that the data from the 61st round report the value of expenditures at the price in 2005 while those in the 68th report the value at the 2012 price.

$\boldsymbol{\lambda_t}$ is the time dummy. It has a value of 0 for the observations in the 61^{st} round and a value of 1 for those in the 68^{th} round.

$\boldsymbol{\delta D_t}$ is the dummy that accounts for the presence of SEZs in each district. As stated above, considering the four different types of developing zones in Gujarat, the hereby analysis has been focused on notified SEZs only. Thus, the examination has been based on a main differentiation between districts, as it has been noticed that the number of developing zones that every district houses varies substantially. Thus, in the preparatory analysis, the lists of developing zones released by the Ministry of Commerce and Industries have been reorganized in order to have a dataset that highlights where the notified SEZs are located. Consequently, the districts have been broken down in three different groups:

- SEZ-active districts, which have numerous SEZs established within the district
- SEZs less-active districts - max two SEZs within the district
- Non-active districts

Through the investigation of data on Indian districts and SEZs offered by the Ministry of Commerce & Industry Department of Commerce (2017), the districts of Bharuch, Ahmedabad, Gandhinagar and Vadodara, are categorised as SEZ-Active districts. Amreli, Kutch and Jamnagar are considered less active districts. Valsad, Mehsana, Surat, Patan, Banas Kantha, Sabar Kantha, Surendranagar, Rajkot, Porbandar, Junagadh, Bhavnagar, Anand, Kheda, Panch Mahals, Dohad, Narmada, The Dangs and Navsari are grouped in the non-active districts (table 6) (Ministry of Commerce & Industry Department of Commerce, 2017).

Table 6: number of SEZ notified per district

List of notified SEZs	Number
Jamnagar	1
Ahmedabad	**7**
Gandhinagar	**6**
Bharuch	**4**
Vadodara	**3**
Amerli	1
Kutch	2
	24

Source: Self elaboration based o (Ministry of Commerce & Industry: Department of Commerce, 2017)

This classification gives the possibility to systematically measure the entity of the impact of the program on the levels of consumptions, considering different scenarios, such as the presence or not of SEZs and their quantity or size. This information will be processed in order to understand if consumption patterns differ under those scenarios, assessing this way the impact on well-being.

The SEZ dummy in our model has the objective of capturing possible differences before the implementation of the SEZ program and afterwards. For this reason, we can identify it as the control group. The dummy assumes a value of 1 in those districts that have implemented the program, and 0 in those that have not. In other specifications where we want to distinct between active and less active districts, we have a double dummy. The SEZ less-active dummy assumes value 1 when in a district are established 2 or less SEZs and 0 vice versa. The SEZ-active dummy is equal to 1 when a district is identified as SEZ-active, thus where three or more zones are established, and 0 in all the other cases.

λt*δDt is the treatment group. It is a dummy resulted from the multiplication between the time dummy, λt, and the SEZ dummy, δDt. This captures the changes over time in the impact of SEZs on the monthly value of consumption of goods.

λ*δ is the treatment effect which is the difference in terms of consumption between treated and non-treated group. The variable assumes a value of 1 for every observation in the 68th round that represents a household within a district which had implemented the program. In the specification where there is a distinction between districts with few and numerous SEZs, the treatment group assumes a double form. The treatment group accounting for districts with numerous SEZs established takes a value of 1, if the observation belongs to the 68th round and represents a household from a SEZ-active district. The dummy representing the treatment group that accounts for a small number of SEZs established within the district is equal to 1 if the observation regards the 68th round and represents a household from a district with maximum two SEZs established.

γ_s is a variable indicating various household characteristics, such as social group, the quantity of land owned, religious group and the National Classification of Occupation (NCO) of the family. The social group is a dummy variable that captures the effect of being a member of the upper classes in India, on the value of monthly consumption. Religion is a dummy variable as well and describes the impact of being Hindu on the goods expenditure. The National Classification of Occupation (NCO) is a three-digit code that describes unitarily for the whole country the type of occupation that a household is associated with. There is a total of 9 broad categories of employment and each of them has even more detailed occupation specifications.

The present analysis will be structured in the following way:

A first differentiation between the consumption of durable and non-durable goods will be examined. This is a matter of particular concern as it has been proved that financial constraints and extremely poverty situations prevent household to acquire non-necessity products. (Ministry of Statistics and Programme Implementation; Government of India; National Sample Survey Office, 2011). Thus, the herby study interprets a good level of durable good consumption as a positive indicator of economic growth inclusiveness. Our aim is to verify whether the program implementation has any major effects on the consumption of the two categories of goods, and thus on well-being and poverty reduction. In doing this, we will conduct the same analysis first for the non-durable goods and secondly for the durable ones.

The analysis consists of three different models. The first model aims to depict the effect of the Special Economic Zones on the value of consumption by considering the difference between districts where the program was implemented and those where it was not. The model therefore includes the treatment and control groups, the time dummy, the variable accounting for the quantity of land owned, the religion and social group dummies and the district dummies.

In the second model, in addition to the first one, we account also for the effect of employment. In particular, the aim of this integration is to understand how the addition of the occupation dummy influences the impact of the program implementation on the value of consumption. The rationale behind this integration is that a part of the variation in the expenditures, which we attribute to the treatment effect, might be in reality due to the employment effect. Therefore, the model is identical to the previous one plus the addition of the occupation dummy.

The third model aims to identify whether the SEZ's quantity and size differential impacts on the overall well-being and poverty reduction. In doing this, it captures the differences in the value of consumption between SEZ active, less active and non-active districts. The structure of the model is similar to the previous one with the time dummy, the variable accounting for the quantity of land owned, the religion and social group dummies, the district dummies and the occupation dummies. The difference regards the treatment and control group as they are represented by the SEZ active and SEZ less-active dummies.

For all the three models, we use a robust estimator in order to avoid inference due to serial correlation between the variables in the regression.

The examination and the data presented so far do not include a differentiation between district's rural and urban areas and take into consideration the whole sample of the population. However, as seen in the previous paragraphs, the existing literature highlights the existence of a different impact of SEZs on rural and urban areas, which arises from the issue of land dispossession. Thus, this specification is introduced in the present model as well, in order to establish if the implementation of the program has a different impact in the rural and urban areas in terms of well-being and poverty reduction. For these reasons, we will conduct for each model, and thus for both durable and non-durable goods, three different analysis, the first one considering the overall population, the second taking into account only the rural areas of a district and the third counting the urban areas only.

4.2.4 NSS Analysis

Table 7: NSSs analysis statistical results

		Model 1			Model2			Model 3					
								Single SEZ			SEZ Active		
		Overall	Rural	Urban	Overall	Rural	Urban	Overall	Rural	Urban	Overall	Rural	Urban
Non-durable goods	Treatment group	353.2007	134.9972	385.5101	264.9752	-18.38919	329.0701	-5.352	-71.10426	28.14322	538.5543	306.7808	538.4402
	t-statistics	1.63	0.39	1.52	1.10	-0.05	1.22	-0.02	-0.19	0.07	1.49	0.41	1.65
	Control group	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	District dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	NCO dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Durable goods	Treatment group	297.1547	252.1095	470.4331	300.3617	178.4823	482.6744	63.94758	385.625	194.2584	540.0096	-1118.477	194.2584
	t-statistics	1.52	0.82	3.01	1.51	0.55	2.79	0.26	1.14	0.85	2.09	-1.67	3.45
	Control group	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	District dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	NCO dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: self-elaboration based on NSSs dataset analysis

The results of the empirical analysis on the effect of SEZs on poverty reduction and well-being in the state of Gujrat are presented in Table 7. The first part of the table reports the outcomes of the value of consumption of non-durable goods, while the second one displays those regarding the durable goods. The table includes the estimations of the three models implemented and of the territorial specifications within each model. The table is created by the authors in such a way as to ease the reading and the interpretation of the results. The full analysis with the outcomes of all the variables, including the district and occupation dummies can be found in the appendix 3.

Starting with the non-durable goods, in the model 1 the effect of the presence of SEZs in a district on the monthly value of consumption is captured. The treatment increases the expenditure by 353 rupees, meaning that implementing the SEZ program has positive effects on the consumption of non-durable goods. The SEZ dummy is significant with a confidence interval of 85%, while is slightly insignificant with a confidence interval of 90%. For being significant at the 10% level, the value assumed by the t statistic has to be within 1.65 and 1.96. In our case, the treatment group has a t-stat of 1.63, which is out of the significance range but really close to it. Since the difference is so minimal, we sustain that is negligible.

Taking into account only the rural areas of a district, within the first model for non-durable goods, it is noticeable that the treatment group turns highly insignificant at the 10% level. This happens as well, even when only the urban areas are considered.

Model 2 considers the effect on the value of consumption of the National Classification of Occupation (NCO). Inserting this element in the analysis has a positive impact on the consumption, as the coefficients of the treatment effect are positive. The problem is that they are highly insignificant, meaning that the implementation of the program does not have an effect on the overall rural and urban consumption of non-durable goods when taking in account the effect of the National Classification of Occupation.

Model 3 differentiates between districts containing a high number of SEZs and those containing few of them and shows how this affects the value of consumption of non-durable goods. Both the two treatment groups are highly insignificant with a confidence interval of 90%, in the overall and rural specifications. The status quo changes when only urban areas are taken into account. Even

if the treatment group, which captures the effect of the establishment of a limited number of SEZs in a district, remains highly insignificant, the other one, which captures the impact of instituting numerous SEZs, turns to be significant at 10%. The treatment has t statistic of 1.65, which is within the confidence interval at 90%. The coefficient is positive, meaning that the implementation of the program had positive effects on consumption of non-durable goods only in urban areas and in those districts where the number of established SEZs is high. The treatment effect brought an increase in consumption of 11% - the mean consumption of non-durable goods in rural areas is 4801. This increase in expenditure might be justified by the fact that a massive investment in SEZ generates new job opportunities for the local population, which leads to an increase in the level of employment. The idea that the implementation of a SEZ program reduces poverty by increasing the level of occupation across the region finds support also in the academic literature as seen in the previous chapter. This hypothesis has to be verified by analysing the effect of the implementation of the program on the employment.

The urban poverty reduction effect is confirmed also by the analysis on the expenditure on durable goods. The urban consumption rose by 34% after the implementation of the program and by 35.7% if we take into account the NCO in our model. The treatment effect is even more pronounced in districts with multiple SEZ, where the expenditure nearly doubled. All these outcomes are significant with a confidence interval of 95%, as the t statistic are above 1.96. In particular, the treatment group accounting for the presence of numerous SEZs in the same district is significant with a confidence interval of 99%.

It has been hypothesized that the reason behind the increase in consumption, as before, is the creation of new job opportunities arising with the program implementation that leads to higher incomes for urban households, subsequently translated into higher consumption.

A factor influencing the magnitude of the effect is the fact that the value of consumption is accounted at current prices and does not take into account the inflation between the rounds. The data represent the expenditure on goods in round 61 and 68. Between these two rounds have passed 7 years and the CPI rose by almost 10% (inflation.eu). Thus, to eliminate inflation from our treatment effect we should normalize the 68^{th} round data on consumption using 2005 as base year.

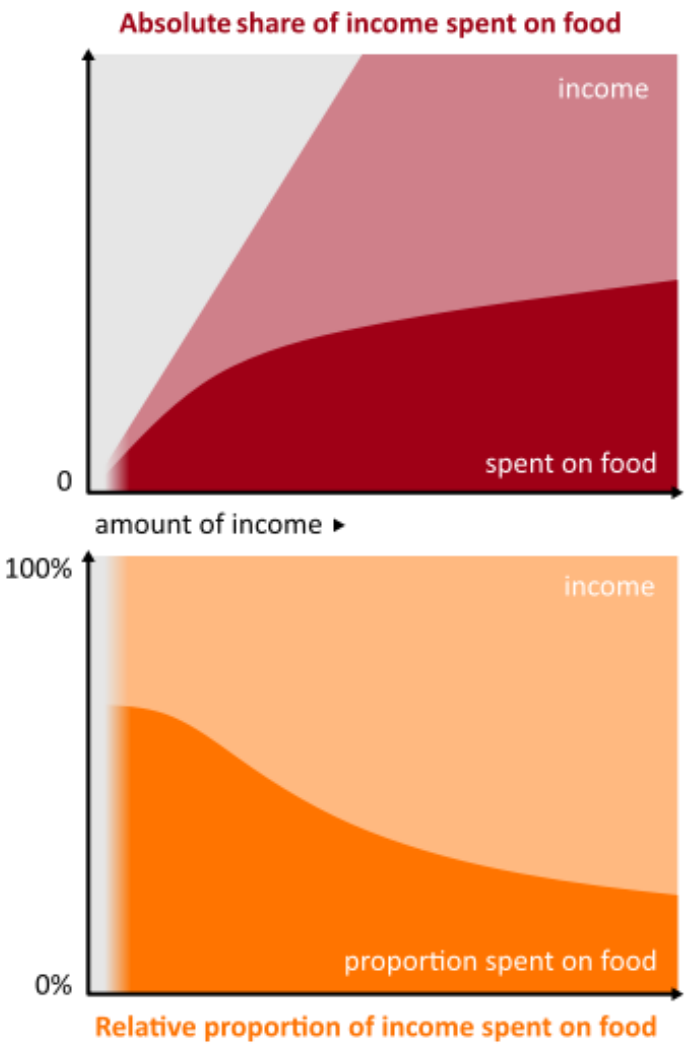
If the SEZ introduction reduces poverty in urban areas, it enhances it in rural areas. This takes place in those districts characterized by a high number of Special Economic Zones established, where the treatment effect reduces the consumption of non-durable goods by -1118 rupees. This data, as the ones before, is highly inflated, meaning that the real impact on the consumption should be lower. Even if polished by the inflation effect, the magnitude of the data should still be impressive. The main reason behind the drop in the rural consumption of non-durable goods is thought to be the massive land acquisition process that enabled the establishment of the SEZs, as it is confirmed by the vast literature existing on this topic and analysed in the above paragraphs. In rural areas, land cultivation is the main source of revenue for a big part of the families. In absence of this, rural households that fail to shift to another employment category experience income losses that conduct to a plunge in consumption expenditures. This hypothesis is validated by the fact that in districts with reduced number of SEZs the rural-poverty enhancing effects are not present, as a result of the fact that only few people were displaced for establishing SEZs. Another confirmation comes from the fact that the rural enhancing poverty effect is not observable in the Models 1 and 2 - the coefficients are not significant with a confidence level of 90% - as the SEZ dummy in these two models considers all the districts that have at least a SEZ in place careless of quantity and dimension. Considering this stream of thought, active SEZs and less active SEZs have opposite effects. In SEZs active districts the massive land acquisition process brings about a massive displacement of people, which in turn generates a poverty enhancement effect. Contrarily, in single SEZ districts the limited dislocation of people does not enhance it.

Being Hindu does not affect the value of consumption of both durable and non-durable goods of a household. The religion dummy is not significant at 10% in any of the models above analysed. Social group influences the value of expenditure with a confidence level of 90% on both perishable and non-perishable products. Being a member of the higher-class increases the value of consumption in all the models created. The amount of land owned is of particular interest in the rural areas of a district, as a marginal unit of land owned increases the expenditures on both durable and non-durable goods.

All in all, the effects of the program implementation are more visible on the consumption of durable goods instead of the non-durable ones. The reason of this lies in the different nature of the two types of goods. The non-durable items, by containing products like cereals, meat, vegetables and utilities might be categorised as necessity goods, a sub group of normal goods. As

happens to normal products, when the income grows, the demand for necessity goods rises. The difference with the normal ones lies in the fact that the increase in demand of necessity products is less than proportional to the increase in income. In other words, the expenditure on necessity goods increases but in a minor percentage than the increase in income. This effect is known as "Engel's law", which states that when the wage rises, the proportion of wage spent on food falls, even if absolute expenditure on food rises (graph 9) (Timmer, Falcon, & Pearson, 1983).

Graph 9: Engel's law representation



Source: (Kraft, 2017)

For this reason, the expenditures on non-durable goods might not be the best empirical parameter to evaluate the living standards of a country, as this type of goods does not capture the entire

magnitude of the wealth differential pre and post treatment. As highlighted by the empirical analysis, no substantial difference in consumption of non-durable goods occurs through the period. This might be because there is no difference in wealth as consequence of the SEZ program implementation, or the differential exists but is not captured completely as the income elasticity of demand of non-durable goods is between 0 and 1. If the first hypothesis were true, then also the consumption of durable goods - category containing products characterized by a normal demand - would not change through the period. The empirical analysis instead proves that the institution of SEZs generates a variation in the consumption of durable goods, sign also of a change upstream in the wealth of the households. For all the reasons presented, we suggest to rely on the expenditures of durable goods as empirical parameter to evaluate the effects on wellbeing and poverty of the implementation of the SEZs programs.

5. Limits and implication for further analysis

The present analysis evaluates the effects of special economic zones on Gujarat's human well-being. However, it has some limitations, mainly connected to the absence of complete datasets and of relevant data.

The census would have had more interesting insights if it had compared different years datasets, as impacts of SEZs on human well-being and development could be a function of the time period during which they have been active in a territory. Unfortunately, these data at the moment of the analysis were not available, and thus, the examination has been focused on the last census data. Moreover, the robustness of the propensity score matching, and thus of the entire model, depends on the assumption that the pre-treatment variables used to match the observation are correct and are those which explain SEZs' location.

Further analyses could therefore focus their attention on datasets that compare the variables in different time periods and investigate the impact of these on the development of villages. Moreover, other researches could find pre-treatment characteristics that better explain the allocation of development zones in the territory.

As far as the NSS analysis is concerned, we do not had access to village data on per capita consumption and thus the study has assumed that the impact of SEZs can be analysed at the district and at the household consumption levels. However, some impacts could be much more localized and visible only at the village level and thus the present analysis could have overlooked them.

A major limitation of the analysis stands in the fact that the 61st round dataset do not report information on household's size. Without this data, it was impossible to insert the variable in the analysis. In this way, the model implicitly assumes that all the households has the same size, and do not accounts for the fact that a high value of consumption might be due to the presence of numerous family members. This might generate an omitted variable bias, as the household size strongly influences the variation of the value of consumption. If this hypothesis reveals to be true, the coefficients estimated in the analysis are biased and inconsistent. For these reasons, further studies should account the household's size as part of the quantitative analysis.

An other limitation, regards the fact that in the used approach all the districts are homogenous. In realty, they differ enormously in terms of quality of infrastructure, position, available area ecc. This might end up in considerable differences in the quantity, dimension and characteristics of the

firms present in the territory. Moreover, this approach do not take into account economic policies and developmental strategies implemented in the single districts throughout the time frame. These might influence the expenditures, the wealth and the living conditions of the inhabitants of the area, generating a bias, as the model will attribute variations in the formers to the implementation of the program.

Additionally, computing the magnitude of the effect of SEZs on household consumption, the model employed does not consider the consequences of inflation, since the value of consumption and all the results are accounted at current prices and not at real prices. As stated in the previous paragraph, seven years have passed between the two rounds, and the CPI rose almost by 10%; in order to have more accurate results, and estimate precisely the magnitude of the impact of the program implementation, the value of consumption should have been normalized using 2005 as base year, successive analysis should consider this.

Further studies should also integrate the household consumption analysis with an employment and unemployment investigation. All the hypothesises advanced by the authors, on employment generation and dislocation, can be validated, or rejected, by analysing the effect of the SEZ program implementation on the employment. This analysis has to be conducted at the individual level, and is possible to utilize the data provided by the NSS.

6. Conclusion and Final Recommendations

The key objective of the present analysis has been the evaluation of the impact of Special Economic Zones on human development and well-being. It has to be underscored that this study is one of the first that presents this type of methodology focusing on Gujarat State and, therefore, it can be employed as a basis for further examinations. The investigation has also important implications and it gives contributions on the understanding of the influence of SEZs on restricted geographical areas.

This paper, after a first part that presented the state-of-the-art-knowledge on this topic, is characterized by a two-level analytical inspection. The analysis thus, on the one hand, aims to identify the effects of SEZs on education, hospital care, transportation facilities and commercial facilities and, on the other hand, the consequences on household consumption. The consumption patterns are considered dramatically interesting as they can be adopted as proxies for poverty, social inclusiveness and economic growth.

The analysis based upon Census datasets demonstrates non-significant influences of SEZs on nearby villages facilities. Therefore, although the very nature of SEZs relates to the development of infrastructures, and consequently, the development of facilities should be one of the first impact of SEZs on the surrounding areas, in the region of Gujarat these consequences are not observable. However, this outcome is in line with previous Indian-based studies and it is interpretable as a logical implication of the presence of state-owned companies and state-driven investments; therefore, further studies are suggested to deeply analyse the rationale behind this limited impact of developing zones on infrastructures development. Moreover, to complete the analysis, social and political studies are needed to prove the assumption of political interests in the allocation of zones.

As far as the NSS analysis is concerned, the results are heterogeneous and prove that only in specific cases the presence of developing zones affects human well-being. The research has employed datasets based on 2004/05 and on 2011/12, and through a regression, has examined the effects of SEZs on rural and urban households' expenditures on both perishable goods and durable goods.

On the one hand, the examination emphasises that the implementation of the program has had positive results on consumption trends of both durable and non-durable goods in urban areas and,

in particular, on those urban districts where the amount of established SEZs is high. On the other hand, it has demonstrated that the impacts of SEZs in rural areas is negative; as a matter of fact, the establishment of developing zones in these areas coincides with a reduction of the consumption of durable goods and thus with a negative effect on economic inclusiveness.

The overall outcomes are particularly important as they outline that, although urban areas are positively impacted by the implementation of the program, rural villages seem not to benefit from the presence of SEZs, neither in the creation of infrastructure nor in the increase of households' consumption of goods.

Further studies are needed to understand these consumption patterns. Nevertheless, a first logical explanation to these conclusions is that, the overall consumption of durable goods in rural areas is negatively influenced by land dispossession which resulted in income losses and expenditures' contraction. These consequences in urban areas, where the possession of land is a non-significant variable, are not present, instead the additional employment created by SEZs' industries originate better consumption patterns and a social lift.

All in all, the analysis highlights that, although SEZs can have positive impacts on human development, their presence does not automatically assure these constructive effects. The case of Gujarat could be considered a practical example of this. It has been proven that SEZs could either create virtuous circumstances or augment incomes deterioration. Thus, a socio-economic analysis is suggested before the implementation of SEZs projects when human well-being is considered an objective of these zones. However, the absence of any impacts on the facilities analysed casts doubt on the importance that is given to human development compared to the boost that these areas can give to exports and economic growth. Nevertheless, human well-being should be taken into consideration, as the long term economic development of a State cannot disregard the development of its population.

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Appendix

Appendix 1

Propensity score matching

Summary statistics (part of a SEZ (yes = 1; no=0)):

Variable	Categories	Counts	Frequencies	%
part of a SEZ (yes = 1; no=0)	0	17680	17680	99,932
	1	12	12	0,068

Summary statistics (Quantitative data):

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
density populatio/hectares	17692	0	17692	0,000	41070,000	6,396	323,970
Total Population of Village	17692	0	17692	2,000	30352,000	1956,543	1949,636
total population male:female ratio	17692	0	17692	0,333	24,000	1,054	0,226
Area under Non-Agricultural Uses (in Hectares)	17692	0	17692	0,000	6863,560	27,263	122,969
Permanent Pastures and Other Grazing Land Area (in Hectares)	17692	0	17692	0,000	2580,360	48,810	89,633

Correspondence between the categories of the response variable and the probabilities (part of a SEZ (yes = 1; no=0)):

Categories	Probabilities
1	0
0	1

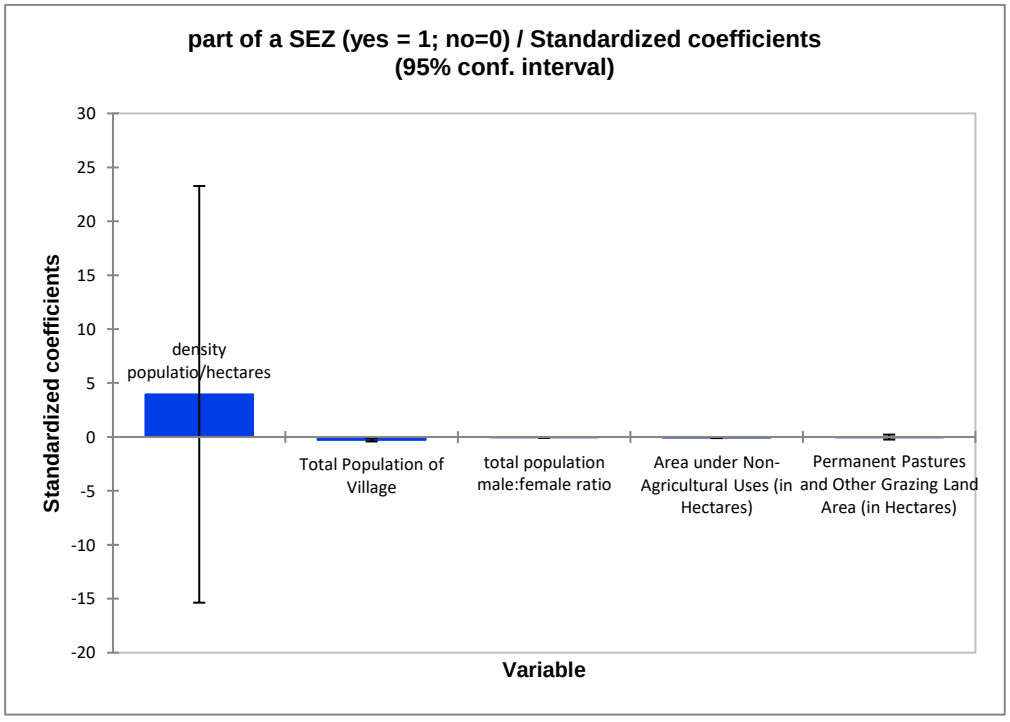
Goodness of fit statistics (part of a SEZ (yes = 1; no=0)):

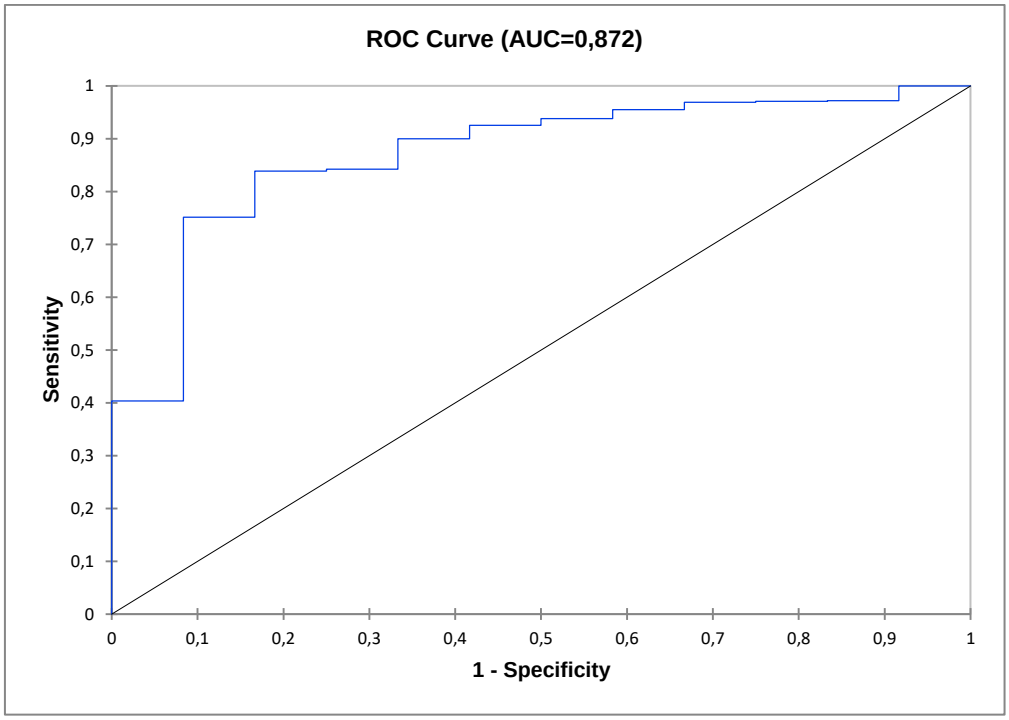
Statistic	Independent	Full
Observations	17692	17692
Sum of weights	17692,000	17692,000
DF	17691	17686

-2 Log(Likelihood)	199,095	180,807
R^2(McFadden)	0,000	0,092
R^2(Cox and Snell)	0,000	0,001
R^2(Nagelkerke)	0,000	0,092
AIC	201,095	192,807
SBC	208,876	239,492
Iterations	0	10

Standardized coefficients (part of a SEZ (yes = 1; no=0)):

Source	Value	Standard error	Wald Chi-Square	Pr > Chi^2	Wald Lower bound (95%)	Wald Upper bound (95%)
density populatio/hectares	3,952	9,855	0,161	0,688	-15,363	23,267
Total Population of Village	-0,265	0,076	12,110	0,001	-0,414	-0,116
total population male:female ratio	-0,039	0,011	11,666	0,001	-0,062	-0,017
Area under Non-Agricultural Uses (in Hectares)	-0,067	0,018	13,557	0,000	-0,103	-0,032
Permanent Pastures and Other Grazing Land Area (in Hectares)	-0,010	0,117	0,007	0,931	-0,239	0,218





Area under the curve: 0,872

Summary of the matched observations:

Categories	Number	Matched
0	17680	12
1	12	12

Cost: 0,057

Appendix 2

Table 1.a: mean diferences, t stat and p value of the Census analysis

Name of the variable	*mean difference*	*tstat, df=22*	*p value diff ≠ 0*
SCHOOL FACILITIES	**-2.50**		**0.169**
Private Pre - Primary School (Nursery/LKG/UKG) (Numbers)	0	0.0000	1.000
Govt Primary School (Numbers)	-2	-2.329	0.0294
Private Primary School (Numbers)	-.1666667	-0.4374	0.6661
Govt Secondary School (Numbers)	-.5	-2.7596	0.0114
Private Secondary School (Numbers)	.0833333	0.5957	0.5575
Govt Senior Secondary School (Numbers)	-.0833333	-1.0000	0.3282
Private Senior Secondary School (Numbers)	.1666667	1.4832	0.1522
Private Engineering College (Numbers)	.0833333	1.0000	0.3282
HOSPITAL AND HEALT FACILITIES	**-3.333**		**0.3965**
Community Health Centre (Numbers)	-.0833333	-1.0000	0.3282
Community Health Centre Doctors In Position (Numbers)	-.1666667	-1.0000	0.3282
Community Health Centre Para Medical Staff Total Strength (Numbers)	-1.083333	-1.0000	0.3282
Primary Health Centre (Numbers)	-.25	-1.5173	0.1434
Primary Health Centre Doctors Total Strength (Numbers)	-.25	-1.5173	0.1434

Primary Health Centre Doctors In Position (Numbers)	0	0.0000	1.0000
Primary Health Centre Para Medical Staff Total Strength (Numbers)	-1	-1.5173	0.1434
Primary Health Centre Para Medical Staff In Position (Numbers)	0	0.0000	1.0000
Primary Heallth Sub Centre (Numbers)	-.25	-1.3416	0.1934
Primary Health Sub Centre Doctors Total Strength (Numbers)	.0833333	1.0000	0.3282
Primary Health Sub Centre Doctors In Position (Numbers)	.0833333	1.0000	0.3282
Primary Health Sub Centre Para Medical Staff Total Strength (Numbers)	-.3333333	-0.8324	0.4141
Primary Health Sub Centre Para Medical Staff In Position (Numbers)	-.3333333	-0.8599	0.3991
Maternity And Child Welfare Centre (Numbers)	.0833333	0.5957	0.5575
Maternity And Child Welfare Centre Doctors Total Strength (Numbers)	-.0833333	-1.0000	0.3282
Maternity And Child Welfare Centre Para Medical Staff Total Strength (Numbers)	.3333333	1.4832	0.1522
Maternity And Child Welfare Centre Para Medical Staff In Position (Numbers)	.3333333	1.4832	0.1522
Non Government Medical facilities Out Patient (Numbers)	.0833333	0.5957	0.5575

Non Government Medical facilities Charitable (Numbers)	.0833333	1.0000	0.3282
Non Government Medical facilities Medical Practitioner with other Degree (Numbers	-.1666667	-0.7153	0.4820
Non Government Medical facilities Medical Practitioner with no Degree (Numbers)	.0833333	1.0000	0.3282
Non Government Medical facilities Medicine Shop (Numbers)	-.1666667	-0.2914	0.7734
TRANSPORTATION FACILITIES	**0.667**		**0.1806**
Private Bus Service (Status A(1)/NA(2))	.4166667	2.4189	0.0243
Railway Station (Status A(1)/NA(2))	-.1666667	-1.0761	0.2936
Auto/Modified Autos (Status A(1)/NA(2))	-.3333333	-1.6848	0.1062
Taxi (Status A(1)/NA(2))	.25	1.5173	0.1434
Cycle-pulled Rickshaws (machine driven) (Status A(1)/NA(2))	.1666667	0.9199	0.3676
Carts Drivens by Animals (Status A(1)/NA(2))	.4166667	2.4189	0.0243
National Highway (Status A(1)/NA(2))	.0833333	0.5957	0.5575
State Highway (Status A(1)/NA(2))	0	0.0000	1.0000
Major District Road (Status A(1)/NA(2))	.25	1.3416	0.1934
Other District Road (Status A(1)/NA(2))	-.25	-1.3416	0.1934
Water Bounded Macadam (Status A(1)/NA(2))	-.1666667	-0.8044	0.4298
COMMERCIAL FACILITES FACILITIES	**-0.083**		**0.6530**
ATM (Status A(1)/NA(2))	-.0833333	-0.5957	0.5575

Commercial Bank (Status A(1)/NA(2))	0	0.0000	1.0000
Cooperative Bank (Status A(1)/NA(2))	-.1666667	-0.9199	0.3676
Agricultural Credit Societies (Status A(1)/NA(2))	.1666667	0.8044	0.4298

Source: Self-elaboration based on the analysis output

Appendix 3

Table 2.a: Results for non-durable goods

```
1 . reg valconsmon dsez dsez_round round lowned dreligion dsocgroup i.district,robus
  note: 25.district omitted because of collinearity

  Linear regression                               Number of obs =      6685
                                                  F( 29,  6655) =     68.10
                                                  Prob > F      =    0.0000
                                                  R-squared     =    0.1886
                                                  Root MSE      =    3920.9
```

valconsmon	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
dsez	-1031.135	286.6153	-3.60	0.000	-1592.993	-469.2773
dsez_round	353.2007	216.1468	1.63	0.102	-70.51621	776.9176
round	3113.265	127.1405	24.49	0.000	2864.029	3362.501
lowned	.0599756	.0184067	3.26	0.001	.0238926	.0960587
dreligion	-158.3896	152.3518	-1.04	0.299	-457.0478	140.2687
dsocgroup	808.475	84.7751	9.54	0.000	642.2887	974.6614
district						
2	-892.8184	237.9108	-3.75	0.000	-1359.2	-426.437
3	-1484.236	239.2817	-6.20	0.000	-1953.305	-1015.167
4	-956.1025	247.9538	-3.86	0.000	-1442.171	-470.0336
5	-1900.226	238.7678	-7.96	0.000	-2368.288	-1432.165
6	1489.852	309.7804	4.81	0.000	882.5833	2097.121
7	2049.703	261.6685	7.83	0.000	1536.749	2562.657
8	-461.5528	301.6402	-1.53	0.126	-1052.864	129.7586
9	787.7693	541.74	1.45	0.146	-274.2147	1849.753
10	144.2558	229.6738	0.63	0.530	-305.9784	594.49
11	-884.5989	253.6289	-3.49	0.000	-1381.793	-387.405
12	-70.10794	322.9323	-0.22	0.828	-703.1588	562.9429
13	264.792	226.3967	1.17	0.242	-179.0182	708.6022
14	-431.6931	251.8742	-1.71	0.087	-925.4472	62.061
15	-1665.675	245.721	-6.78	0.000	-2147.367	-1183.983
16	-1677.362	231.66	-7.24	0.000	-2131.49	-1223.234
17	-782.3891	237.7769	-3.29	0.001	-1248.508	-316.2701
18	-492.11	240.9039	-2.04	0.041	-964.3588	-19.86124
19	1491.451	259.6845	5.74	0.000	982.386	2000.516
20	-402.1841	321.1115	-1.25	0.210	-1031.666	227.2973
21	1098.595	273.4191	4.02	0.000	562.6061	1634.584
22	668.6002	251.6259	2.66	0.008	175.3327	1161.868
23	-1473.91	294.9755	-5.00	0.000	-2052.157	-895.6634
24	127.3333	272.0478	0.47	0.640	-405.9675	660.6342
25	0	(omitted)				
_cons	3109.011	260.7951	11.92	0.000	2597.769	3620.253

```
7 . reg valconsmon dsez dsez_round round lowned dreligion dsocgroup i.district if rural==1
note: 25.district omitted because of collinearity
```

Source	SS	df	MS		
Model	3.8384e+09	29	132357475	Number of obs	1448
Residual	9.8351e+09	1418	6935878.38	F(29, 1418)	19.08
				Prob > F	0.0000
				R-squared	0.2807
				Adj R-squared	0.2660
Total	1.3673e+10	1447	9449510.94	Root MSE	2633.6

valconsmon	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
dsez	-1272.201	558.9369	-2.28	0.023	-2368.633	-175.7686
dsez_round	134.9972	350.044	0.39	0.700	-551.6625	821.6569
round	2825.385	194.869	14.50	0.000	2443.123	3207.648
lowned	.1032411	.0264976	3.90	0.000	.0512623	.1552199
dreligion	-445.9678	309.1471	-1.44	0.149	-1052.403	160.4669
dsocgroup	486.9897	205.7567	2.37	0.018	83.36944	890.61
district						
2	-1096.415	527.0084	-2.08	0.038	-2130.214	-62.6147
3	-1295.009	558.329	-2.32	0.021	-2390.249	-199.7694
4	-1102.543	660.4087	-1.67	0.095	-2398.027	192.9396
5	-1623.091	516.3504	-3.14	0.002	-2635.983	-610.1977
6	2632.47	727.9946	3.62	0.000	1204.408	4060.532
7	1687.37	541.1086	3.12	0.002	625.9107	2748.83
8	-329.522	495.1125	-0.67	0.506	-1300.754	641.7098
9	387.2658	491.9906	0.79	0.431	-577.8418	1352.373
10	510.6206	442.1362	1.15	0.248	-356.6908	1377.932
11	-820.7988	782.0778	-1.05	0.294	-2354.953	713.355
12	815.3633	551.9719	1.48	0.140	-267.406	1898.133
13	177.2518	438.8527	0.40	0.686	-683.6185	1038.122
14	-74.85679	633.4462	-0.12	0.906	-1317.449	1167.736
15	-1338.536	712.6607	-1.88	0.061	-2736.518	59.44688
16	-932.6027	708.7173	-1.32	0.188	-2322.85	457.6443
17	-921.3917	505.8625	-1.82	0.069	-1913.711	70.92763
18	-315.614	485.7745	-0.65	0.516	-1268.528	637.3
19	1254.173	466.3219	2.69	0.007	339.4182	2168.928
20	-436.2713	536.5085	-0.81	0.416	-1488.707	616.1644
21	1281.855	526.4275	2.44	0.015	249.1949	2314.516
22	548.149	582.56	0.94	0.347	-594.623	1690.921
23	-932.6636	739.2495	-1.26	0.207	-2382.804	517.4766
24	-33.04684	545.4362	-0.06	0.952	-1102.995	1036.902
25	0	(omitted)				
_cons	3652.793	497.8132	7.34	0.000	2676.264	4629.323

```
13 . reg valconsmon dsez dsez_round round lowned dreligion dsocgroup i.district if rural==0
note: 25.district omitted because of collinearity
```

Source	SS	df	MS		
Model	2.0164e+10	29	695306147	Number of obs	5237
Residual	9.2128e+10	5207	17693099.3	F(29, 5207)	39.30
				Prob > F	0.0000
				R-squared	0.1796
				Adj R-squared	0.1750
Total	1.1229e+11	5236	21446112.8	Root MSE	4206.3

valconsmon	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
dsez	-963.9628	526.509	-1.83	0.067	-1996.141	68.21577
dsez_round	385.5101	253.6542	1.52	0.129	-111.7586	882.7789
round	3205.908	143.2692	22.38	0.000	2925.04	3486.776
lowned	.0573234	.0573672	1.00	0.318	-.0551405	.1697872
dreligion	-109.7575	197.426	-0.56	0.578	-496.7953	277.2803
dsocgroup	896.407	150.2261	5.97	0.000	601.9007	1190.913
district						
2	-732.6552	447.6001	-1.64	0.102	-1610.139	144.8287
3	-1438.8	480.2464	-3.00	0.003	-2380.285	-497.3156
4	-862.4772	441.7669	-1.95	0.051	-1728.526	3.571301
5	-1931.201	444.0916	-4.35	0.000	-2801.807	-1060.595
6	1368.413	503.3581	2.72	0.007	381.62	2355.206
7	2061.215	418.2954	4.93	0.000	1241.18	2881.249
8	-634.7579	566.8322	-1.12	0.263	-1745.987	476.471
9	996.4999	413.6605	2.41	0.016	185.5517	1807.448
10	215.1838	553.4466	0.39	0.697	-869.8037	1300.171
11	-828.9076	514.2828	-1.61	0.107	-1837.118	179.3025
12	-231.537	427.1825	-0.54	0.588	-1068.994	605.92
13	645.4382	576.8304	1.12	0.263	-485.3914	1776.268
14	-418.095	413.1067	-1.01	0.312	-1227.958	391.7676
15	-1633.257	437.5651	-3.73	0.000	-2491.068	-775.4454
16	-1681.073	435.5626	-3.86	0.000	-2534.959	-827.1877
17	-645.548	452.4125	-1.43	0.154	-1532.466	241.3703
18	-578.9169	470.9632	-1.23	0.219	-1502.202	344.3686
19	1594.993	441.1003	3.62	0.000	730.251	2459.734
20	-401.4296	569.3193	-0.71	0.481	-1517.534	714.6752
21	1084.327	512.4957	2.12	0.034	79.61994	2089.033
22	758.5962	383.0662	1.98	0.048	7.62579	1509.567
23	-1667.282	692.7542	-2.41	0.016	-3025.371	-309.1929
24	267.2341	498.5808	0.54	0.592	-710.1936	1244.662
25	0	(omitted)				
_cons	2884.132	408.2569	7.06	0.000	2083.778	3684.487

```
18 .
19 . reg valconsmon dsez dsez_round round lowned dreligion dsocgroup i.district i.ncol,robust
note: 25.district omitted because of collinearity
```

Linear regression

Number of obs	= 6390
F(37, 6352)	= 66.54
Prob > F	= 0.0000
R-squared	= 0.1948
Root MSE	= 3943.1

valconsmon	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
dsez	-1043.517	297.6935	-3.51	0.000	-1627.097	-459.9375
dsez_round	264.9752	240.5839	1.10	0.271	-206.6505	736.601
round	3087.237	116.1084	26.59	0.000	2859.625	3314.848
lowned	.1103088	.0203309	5.43	0.000	.0704534	.1501642
dreligion	-191.033	156.3253	-1.22	0.222	-497.4834	115.4173
dsocgroup	579.1371	85.75464	6.75	0.000	411.029	747.2451
district						
2	-980.7838	233.2957	-4.20	0.000	-1438.122	-523.4455
3	-1250.032	234.0399	-5.34	0.000	-1708.829	-791.2344
4	-632.7036	243.9148	-2.59	0.010	-1110.859	-154.5482
5	-1771.577	233.4678	-7.59	0.000	-2229.253	-1313.901
6	1769.622	331.0937	5.34	0.000	1120.566	2418.677
7	2090.731	274.3741	7.62	0.000	1552.866	2628.597
8	-233.9937	301.5944	-0.78	0.438	-825.2204	357.233

9	869.9615	564.1736	1.54	0.123	-236.0091	1975.932
10	212.811	257.2048	0.83	0.408	-291.3971	717.0191
11	-593.0649	249.9887	-2.37	0.018	-1083.127	-103.0027
12	284.5813	326.8809	0.87	0.384	-356.2156	925.3782
13	565.6407	233.6968	2.42	0.016	107.5162	1023.765
14	-279.8886	251.9904	-1.11	0.267	-773.875	214.0977
15	-1437.511	241.9824	-5.94	0.000	-1911.878	-963.1438
16	-1494.973	225.4798	-6.63	0.000	-1936.99	-1052.957
17	-649.1436	232.9835	-2.79	0.005	-1105.87	-192.4173
18	-478.3746	237.2366	-2.02	0.044	-943.4385	-13.31074
19	1687.326	270.9327	6.23	0.000	1156.206	2218.445
20	-505.5135	319.7122	-1.58	0.114	-1132.257	121.2303
21	1298.363	290.1944	4.47	0.000	729.4839	1867.242
22	614.3627	244.4009	2.51	0.012	135.2545	1093.471
23	-1217.5	291.6829	-4.17	0.000	-1789.297	-645.7032
24	208.3814	268.0452	0.78	0.437	-317.0778	733.8405
25	0	(omitted)				
nco1						
2	356.7508	231.5529	1.54	0.123	-97.17112	810.6727
3	-108.585	338.1833	-0.32	0.748	-771.5385	554.3684
4	-515.7	203.5747	-2.53	0.011	-914.7752	-116.6248
5	-866.8701	221.1267	-3.92	0.000	-1300.353	-433.3872
6	-1134.949	189.7012	-5.98	0.000	-1506.828	-763.0707
7	-338.1667	421.6765	-0.80	0.423	-1164.795	488.4616
8	-506.3811	237.7912	-2.13	0.033	-972.5322	-40.23006
9	-1138.332	200.7966	-5.67	0.000	-1531.961	-744.7027
_cons	3905.003	326.543	11.96	0.000	3264.869	4545.138

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20 .
21 .
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24 . reg valconsmon dsez dsez_round round lowned dreligion dsocgroup i.district i.nco1 if rural==1
note: 25.district omitted because of collinearity
```

Source	SS	df	MS	Number of obs	=	1443
				F(37, 1405)	=	15.84
Model	4.0128e+09	37	108455175	Prob > F	=	0.0000
Residual	9.6203e+09	1405	6847169.56	R-squared	=	0.2943
				Adj R-squared	=	0.2758
Total	1.3633e+10	1442	9454309.79	Root MSE	=	2616.7

valconsmon	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
dsez	-1121.195	559.7305	-2.00	0.045	-2219.193	-23.19792
dsez_round	-18.38919	367.7556	-0.05	0.960	-739.7985	703.0201
round	2890.104	210.0643	13.76	0.000	2478.03	3302.177
lowned	.120421	.0283475	4.25	0.000	.064813	.1760291
dreligion	-321.0059	316.2852	-1.01	0.310	-941.448	299.4363
dsocgroup	465.4706	207.7737	2.24	0.025	57.89057	873.0506
district						
2	-1167.048	533.7649	-2.19	0.029	-2214.109	-119.9856
3	-1548.835	605.3901	-2.56	0.011	-2736.401	-361.2696
4	-860.4492	662.1957	-1.30	0.194	-2159.448	438.5495
5	-1379.287	520.507	-2.65	0.008	-2400.341	-358.2321
6	2647.312	729.815	3.63	0.000	1215.668	4078.957
7	1567.585	541.8548	2.89	0.004	504.6538	2630.517
8	-246.7328	497.4854	-0.50	0.620	-1222.627	729.1614
9	402.6995	495.1559	0.81	0.416	-568.625	1374.024
10	462.5895	450.6933	1.03	0.305	-421.5148	1346.694
11	-769.5103	779.8599	-0.99	0.324	-2299.325	760.3048
12	556.8398	560.4728	0.99	0.321	-542.6138	1656.293
13	191.284	443.427	0.43	0.666	-678.5664	1061.134
14	23.47524	633.0292	0.04	0.970	-1218.309	1265.259
15	-1136.905	715.553	-1.59	0.112	-2540.572	266.7622
16	-732.4935	708.4855	-1.03	0.301	-2122.297	657.3098

17	-841.0446	508.3822	-1.65	0.098	-1838.315	156.2253
18	-272.2245	485.7818	-0.56	0.575	-1225.16	680.7112
19	1247.895	472.6514	2.64	0.008	320.7165	2175.073
20	-399.8776	539.3404	-0.74	0.459	-1457.877	658.1215
21	1256.977	528.1532	2.38	0.017	220.9228	2293.03
22	791.5782	601.596	1.32	0.188	-388.5449	1971.701
23	-739.6498	738.2747	-1.00	0.317	-2187.889	708.5897
24	74.27247	548.9086	0.14	0.892	-1002.496	1151.041
25	0	(omitted)				
nco1						
2	-300.1214	643.2525	-0.47	0.641	-1561.96	961.7174
3	-553.1351	577.0489	-0.96	0.338	-1685.105	578.835
4	-408.3073	639.3999	-0.64	0.523	-1662.589	845.9739
5	-325.2444	655.8755	-0.50	0.620	-1611.845	961.3562
6	-1025.516	473.4779	-2.17	0.030	-1954.316	-96.71641
7	-575.8188	629.8089	-0.91	0.361	-1811.286	659.6481
8	453.9496	667.8631	0.68	0.497	-856.1667	1764.066
9	-1634.217	570.576	-2.86	0.004	-2753.489	-514.944
_cons	4321.469	681.7129	6.34	0.000	2984.184	5658.754

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5 .
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```
. reg valconsmon dsez dsez_round round lowned dreligion dsocgroup i.district i.ncol if rural-
> =0
note: 25.district omitted because of collinearity
```

Source	SS	df	MS		
Model	2.0168e+10	37	545077796	Number of obs	= 4947
Residual	8.8688e+10	4909	18066460.8	F(37, 4909)	= 30.17
				Prob > F	= 0.0000
				R-squared	= 0.1853
				Adj R-squared	= 0.1791
Total	1.0886e+11	4946	22008923.2	Root MSE	= 4250.5

valconsmon	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
dsez	-947.6882	580.7207	-1.63	0.103	-2086.161	190.7842
dsez_round	329.0701	268.7027	1.22	0.221	-197.7074	855.8476
round	3157.862	156.9624	20.12	0.000	2850.145	3465.579
lowned	.0736116	.0586904	1.25	0.210	-.0414478	.188671
dreligion	-137.2746	210.0324	-0.65	0.513	-549.0321	274.4829
dsocgroup	608.7413	163.7104	3.72	0.000	287.7957	929.6869
district						
2	-823.6726	502.5525	-1.64	0.101	-1808.9	161.555
3	-1150.115	544.7915	-2.11	0.035	-2218.15	-82.0795
4	-503.7796	504.0844	-1.00	0.318	-1492.011	484.4514
5	-1827.464	505.0346	-3.62	0.000	-2817.557	-837.3699
6	1669.351	525.901	3.17	0.002	638.3495	2700.352
7	2105.851	432.7453	4.87	0.000	1257.477	2954.226
8	-250.0815	625.5855	-0.40	0.689	-1476.509	976.346
9	1077.632	475.0631	2.27	0.023	146.2956	2008.968
10	152.6382	580.8555	0.26	0.793	-986.0984	1291.375
11	-393.883	573.7562	-0.69	0.492	-1518.702	730.9358
12	233.085	495.5584	0.47	0.638	-738.4311	1204.601
13	932.0231	595.1643	1.57	0.117	-234.7651	2098.811
14	-210.2482	479.3048	-0.44	0.661	-1149.9	729.4036
15	-1373.795	502.0202	-2.74	0.006	-2357.979	-389.6108
16	-1452.28	498.9532	-2.91	0.004	-2430.451	-474.1082
17	-459.1872	513.8341	-0.89	0.372	-1466.532	548.1575
18	-596.1136	527.0115	-1.13	0.258	-1629.292	437.0646
19	1790.952	461.5703	3.88	0.000	886.0675	2695.836
20	-697.6099	628.0312	-1.11	0.267	-1928.832	533.6121
21	1286.651	532.2774	2.42	0.016	243.1489	2330.153
22	708.1785	446.5179	1.59	0.113	-167.1963	1583.553
23	-1322.635	736.6667	-1.80	0.073	-2766.831	121.5611
24	270.6176	551.3471	0.49	0.624	-810.2693	1351.504
25	0	(omitted)				
ncol						
2	458.6719	325.8128	1.41	0.159	-180.0669	1097.411
3	54.01191	333.6984	0.16	0.871	-600.1863	708.2101
4	-473.3568	292.9034	-1.62	0.106	-1047.579	100.8649
5	-892.8993	296.5621	-3.01	0.003	-1474.294	-311.505
6	-1286.359	295.5626	-4.35	0.000	-1865.794	-706.9236
7	-283.7206	301.0819	-0.94	0.346	-873.9757	306.5346
8	-565.9488	295.4025	-1.92	0.055	-1145.07	13.17234
9	-1059.848	279.3658	-3.79	0.000	-1607.53	-512.1656
_cons	3662.549	516.2832	7.09	0.000	2650.403	4674.695

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31 .
32 . reg valconsmon lotsez fewsez dfew_round dlot_round round lowned dreligion dsocgroup i.distr
   > ict i.nco1,robust
   note: 21.district omitted because of collinearity
   note: 25.district omitted because of collinearity

   Linear regression                               Number of obs =     6390
                                                   F( 38,  6351) =    65.80
                                                   Prob > F      =   0.0000
                                                   R-squared     =   0.1951
                                                   Root MSE      =   3942.7
```

valconsmon	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lotsez	123.7158	301.1595	0.41	0.681	-466.6585	714.0901
fewsez	-920.4282	292.5697	-3.15	0.002	-1493.964	-346.8927
dfew_round	-5.352	231.8189	-0.02	0.982	-459.7953	449.0913
dlot_round	538.5543	361.8535	1.49	0.137	-170.8007	1247.909
round	3087.798	116.0751	26.60	0.000	2860.252	3315.345
lowned	.1145976	.0206053	5.56	0.000	.0742043	.1549908
dreligion	-179.7328	156.7598	-1.15	0.252	-487.035	127.5694
dsocgroup	576.8536	85.58087	6.74	0.000	409.0862	744.621
district						
2	-982.2745	233.339	-4.21	0.000	-1439.698	-524.8513
3	-1249.177	234.0184	-5.34	0.000	-1707.932	-790.4217
4	-632.819	243.8448	-2.60	0.009	-1110.837	-154.8008
5	-1775.279	233.4504	-7.60	0.000	-2232.92	-1317.637
6	493.8129	332.1437	1.49	0.137	-157.301	1144.927
7	806.7355	291.2195	2.77	0.006	235.8469	1377.624
8	-240.4989	301.4095	-0.80	0.425	-831.3633	350.3655
9	867.8018	564.3389	1.54	0.124	-238.493	1974.097
10	202.3876	256.2921	0.79	0.430	-300.0315	704.8066
11	-597.6629	249.7569	-2.39	0.017	-1087.271	-108.0549
12	285.7457	326.872	0.87	0.382	-355.0338	926.5252
13	555.9672	232.5353	2.39	0.017	100.1194	1011.815
14	-275.0624	252.2475	-1.09	0.276	-769.5526	219.4278
15	-1438.189	241.9901	-5.94	0.000	-1912.572	-963.8069
16	-1494.328	225.4897	-6.63	0.000	-1936.364	-1052.292
17	-650.3803	232.9168	-2.79	0.005	-1106.976	-193.7849
18	-477.2874	237.237	-2.01	0.044	-942.3521	-12.2227
19	1673.457	269.4296	6.21	0.000	1145.284	2201.63
20	-508.6009	319.7814	-1.59	0.112	-1135.48	118.2787
21	0	(omitted)				
22	616.1126	244.4199	2.52	0.012	136.9671	1095.258
23	-1221.378	291.5593	-4.19	0.000	-1792.933	-649.8231
24	206.4319	267.9197	0.77	0.441	-318.7811	731.6449
25	0	(omitted)				
nco1						
2	366.8783	231.0809	1.59	0.112	-86.11831	819.875
3	-108.9821	337.7523	-0.32	0.747	-771.0906	553.1263
4	-507.2486	202.9215	-2.50	0.012	-905.0432	-109.454
5	-869.3212	221.0079	-3.93	0.000	-1302.571	-436.0711
6	-1142.024	189.7674	-6.02	0.000	-1514.032	-770.0157
7	-351.9912	422.5957	-0.83	0.405	-1180.421	476.439
8	-518.1005	238.6064	-2.17	0.030	-985.8496	-50.35135
9	-1133.622	200.4302	-5.66	0.000	-1526.533	-740.7113
_cons	3895.937	326.6455	11.93	0.000	3255.601	4536.272

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35 .
36 . reg valconsmon lotsez fewsez dfew_round dlot_round round lowned dreligion dsocgroup i.distr
   > ict i.nco1 if rural==1
   note: 21.district omitted because of collinearity
   note: 25.district omitted because of collinearity
```

Source	SS	df	MS		
Model	4.0145e+09	38	105644588	Number of obs	1443
Residual	9.6186e+09	1404	6850869.21	F(38, 1404)	15.42
				Prob > F	0.0000
				R-squared	0.2945
				Adj R-squared	0.2754
Total	1.3633e+10	1442	9454309.79	Root MSE	2617.4

valconsmon	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lotsez	50.7298	597.7384	0.08	0.932	-1121.827	1223.286
fewsez	-1087.59	564.0465	-1.93	0.054	-2194.054	18.87511
dfew_round	-71.10426	383.191	-0.19	0.853	-822.7928	680.5843
dlot_round	306.7808	757.3481	0.41	0.685	-1178.875	1792.437
round	2890.437	210.1222	13.76	0.000	2478.25	3302.625
lowned	.1193273	.0284425	4.20	0.000	.0635329	.1751216
dreligion	-328.5447	316.7427	-1.04	0.300	-949.8847	292.7953
dsocgroup	463.9128	207.854	2.23	0.026	56.17499	871.6506
district						
2	-1167.445	533.9097	-2.19	0.029	-2214.791	-120.0982
3	-1545.693	605.5874	-2.55	0.011	-2733.647	-357.7394
4	-857.7564	662.3972	-1.29	0.196	-2157.151	441.6385
5	-1376.474	520.6791	-2.64	0.008	-2397.867	-355.0809
6	1476.319	760.0991	1.94	0.052	-14.73312	2967.371
7	349.5162	590.2902	0.59	0.554	-808.4296	1507.462
8	-243.8942	497.6533	-0.49	0.624	-1220.118	732.33
9	407.2905	495.3778	0.82	0.411	-564.4699	1379.051
10	461.4862	450.8207	1.02	0.306	-422.8684	1345.841
11	-767.3389	780.083	-0.98	0.325	-2297.593	762.915
12	558.2786	560.6318	1.00	0.320	-541.4877	1658.045
13	196.2183	443.6606	0.44	0.658	-674.0907	1066.527
14	28.23981	633.2745	0.04	0.964	-1214.026	1270.506
15	-1136.124	715.7481	-1.59	0.113	-2540.175	267.9271
16	-731.8551	708.678	-1.03	0.302	-2122.037	658.3267
17	-841.5004	508.5204	-1.65	0.098	-1839.042	156.0412
18	-270.8373	485.9212	-0.56	0.577	-1224.047	682.3725
19	1231.373	473.9741	2.60	0.009	301.5999	2161.147
20	-399.462	539.4867	-0.74	0.459	-1457.749	658.8249
21	0	(omitted)				
22	792.2447	601.7601	1.32	0.188	-388.201	1972.69
23	-739.7634	738.4742	-1.00	0.317	-2188.395	708.8682
24	73.54277	549.0589	0.13	0.893	-1003.521	1150.607

25	0	(omitted)				
ncol						
2	-308.8727	643.6729	-0.48	0.631	-1571.537	953.7915
3	-554.6434	577.2129	-0.96	0.337	-1686.936	577.6492
4	-410.9893	639.5959	-0.64	0.521	-1665.656	843.6772
5	-333.2799	656.2566	-0.51	0.612	-1620.629	954.0691
6	-1031.436	473.7591	-2.18	0.030	-1960.788	-102.0842
7	-564.3683	630.4102	-0.90	0.371	-1801.016	672.279
8	445.4591	668.2671	0.67	0.505	-865.4505	1756.369
9	-1645.726	571.2109	-2.88	0.004	-2766.245	-525.2075
cons	4336.046	682.5426	6.35	0.000	2997.133	5674.959

```
44 . reg valconsmon lotsez fewsez dfew_round dlot_round round lowned dreligion dsocgroup i.distr
   > ict i.ncol if rural==0
   note: 21.district omitted because of collinearity
   note: 25.district omitted because of collinearity
```

Source	SS	df	MS		
Model	2.0191e+10	38	531332235	Number of obs	4947
Residual	8.8666e+10	4908	18065507.2	F(38, 4908)	29.41
				Prob > F	0.0000
				R-squared	0.1855
				Adj R-squared	0.1792
Total	1.0886e+11	4946	22008923.2	Root MSE	4250.4

valconsmon	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lotsez	228.5897	556.5825	0.41	0.681	-862.561	1319.74
fewsez	-781.2635	599.3465	-1.30	0.192	-1956.251	393.7237
dfew_round	28.14322	379.6297	0.07	0.941	-716.1009	772.3873
dlot_round	538.4402	327.1273	1.65	0.100	-102.8757	1179.756
round	3157.561	156.9585	20.12	0.000	2849.852	3465.27
lowned	.0756868	.058718	1.29	0.197	-.0394267	.1908003
dreligion	-123.1419	210.4042	-0.59	0.558	-535.6283	289.3444
dsocgroup	600.8779	163.856	3.67	0.000	279.6469	922.109
district						
2	-825.6389	502.5423	-1.64	0.100	-1810.847	159.5688
3	-1145.998	544.7895	-2.10	0.035	-2214.029	-77.96675
4	-504.4851	504.0715	-1.00	0.317	-1492.691	483.7206
5	-1831.829	505.0362	-3.63	0.000	-2821.926	-841.7315
6	401.9313	493.3728	0.81	0.415	-565.3001	1369.163
7	837.1171	393.8793	2.13	0.034	64.93737	1609.297
8	-251.4784	625.5702	-0.40	0.688	-1477.876	974.9192
9	1079.553	475.0537	2.27	0.023	148.2355	2010.871
10	51.0846	587.8487	0.09	0.931	-1101.362	1203.531
11	-395.7755	573.7435	-0.69	0.490	-1520.57	729.0186
12	235.0085	495.5483	0.47	0.635	-736.4879	1206.505
13	861.3201	598.4747	1.44	0.150	-311.9582	2034.598
14	-202.444	479.3426	-0.42	0.673	-1142.17	737.282
15	-1376.418	502.0124	-2.74	0.006	-2360.587	-392.2495
16	-1451.9	498.9401	-2.91	0.004	-2430.046	-473.7544
17	-461.1751	513.8236	-0.90	0.369	-1468.499	546.1491
18	-592.004	527.0103	-1.12	0.261	-1625.18	441.172
19	1753.121	462.7878	3.79	0.000	845.8495	2660.392
20	-700.6503	628.0204	-1.12	0.265	-1931.851	530.5508
21	0	(omitted)				
22	707.9412	446.5062	1.59	0.113	-167.4107	1583.293
23	-1329.87	736.6755	-1.81	0.071	-2774.083	114.3436
24	262.3622	551.3816	0.48	0.634	-818.5924	1343.317
25	0	(omitted)				

ncol						
2	469.641	325.9508	1.44	0.150	-169.3684	1108.65
3	46.50596	333.7567	0.14	0.889	-607.8064	700.8183
4	-470.0835	292.9102	-1.60	0.109	-1044.319	104.1515
5	-897.4537	296.582	-3.03	0.002	-1478.887	-316.0203
6	-1302.538	295.9064	-4.40	0.000	-1882.647	-722.4292
7	-307.8438	301.8405	-1.02	0.308	-899.5863	283.8986
8	-581.8876	295.7361	-1.97	0.049	-1161.663	-2.112616
9	-1059.245	279.359	-3.79	0.000	-1606.913	-511.5761
_cons	3661.803	516.27	7.09	0.000	2649.683	4673.924

Results for durable goods

```
14 . reg valconsmon yessez round_yessez round lowned dreligion dsocgroup i.district,robust
note: 25.district omitted because of collinearity
```

Linear regression

Number of obs	6682
F(29, 6652)	26.06
Prob > F	0.0000
R-squared	0.1127
Root MSE	2585.9

valconsmon	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
yessez	258.9768	447.9817	0.58	0.563	-619.2109	1137.164
round_yessez	297.1547	195.4511	1.52	0.128	-85.99222	680.3016
round	1227.613	67.73483	18.12	0.000	1094.831	1360.395
lowned	.1444759	.0995446	1.45	0.147	-.0506634	.3396152
dreligion	64.54045	105.1842	0.61	0.540	-141.6543	270.7352
dsocgroup	306.7797	63.69083	4.82	0.000	181.9253	431.6341
district						
2	-17.04465	161.991	-0.11	0.916	-334.599	300.5097
3	228.9663	223.2983	1.03	0.305	-208.77	666.7026
4	-65.19411	153.2976	-0.43	0.671	-365.7066	235.3183
5	-732.8551	135.848	-5.39	0.000	-999.1607	-466.5494
6	232.0783	519.0722	0.45	0.655	-785.4696	1249.626
7	708.0896	539.5901	1.31	0.189	-349.68	1765.859
8	551.4064	373.8569	1.47	0.140	-181.4729	1284.286
9	281.024	232.3805	1.21	0.227	-174.5164	736.5644
10	-779.5711	436.3319	-1.79	0.074	-1634.922	75.77931
11	-561.6236	170.8019	-3.29	0.001	-896.4501	-226.7971
12	-5.715596	181.1918	-0.03	0.975	-360.9096	349.4785
13	-1030.52	467.0776	-2.21	0.027	-1946.142	-114.8986
14	-237.9911	140.6024	-1.69	0.091	-513.6169	37.63467
15	-744.2518	140.9609	-5.28	0.000	-1020.58	-467.9233
16	-673.1974	135.6379	-4.96	0.000	-939.0911	-407.3036
17	-211.3796	151.1305	-1.40	0.162	-507.6439	84.88467
18	-219.5252	160.1442	-1.37	0.170	-533.4591	94.40866
19	1.999657	484.1995	0.00	0.997	-947.1867	951.186
20	-345.6147	173.7497	-1.99	0.047	-686.2198	-5.009676
21	-362.6355	542.8965	-0.67	0.504	-1426.887	701.6158
22	293.7341	156.6486	1.88	0.061	-13.34745	600.8156
23	-619.4477	166.7205	-3.72	0.000	-946.2732	-292.6221
24	-54.86512	158.2934	-0.35	0.729	-365.1709	255.4407
25	0	(omitted)				
_cons	315.1705	156.7329	2.01	0.044	7.923673	622.4173

```
15 .
16 . reg valconsmon yessez round_yessez round lowned dreligion dsocgroup i.district if rural==1
note: 25.district omitted because of collinearity
```

Source	SS	df	MS
Model	1.0195e+09	29	35155272.3
Residual	7.5983e+09	1416	5366026.9
Total	8.6178e+09	1445	5963873.34

Number of obs	1446
F(29, 1416)	6.55
Prob > F	0.0000
R-squared	0.1183
Adj R-squared	0.1002
Root MSE	2316.5

valconsmon	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
yessez	1050.851	491.711	2.14	0.033	86.29113	2015.412
round_yessez	252.1095	308.0445	0.82	0.413	-352.1631	856.3822
round	1136.91	171.5546	6.63	0.000	800.3816	1473.438
lowned	.0784017	.0233124	3.36	0.001	.0326711	.1241322
dreligion	63.24038	271.9531	0.23	0.816	-470.2339	596.7147
dsocgroup	144.9901	181.821	0.80	0.425	-211.6773	501.6576
district						
2	-24.66389	465.5778	-0.05	0.958	-937.9602	888.6324
3	804.6499	491.29	1.64	0.102	-159.0846	1768.384
4	-61.18052	581.0122	-0.11	0.916	-1200.918	1078.557
5	-430.97	454.2915	-0.95	0.343	-1322.127	460.1868
6	-491.923	640.3475	-0.77	0.442	-1748.055	764.2088
7	-708.236	475.956	-1.49	0.137	-1641.891	225.4186
8	648.2388	435.5447	1.49	0.137	-206.1434	1502.621
9	16.99129	432.924	0.04	0.969	-832.25	866.2326
10	-1447	388.9107	-3.72	0.000	-2209.903	-684.0972
11	-103.5836	688.0002	-0.15	0.880	-1453.193	1246.026
12	165.6666	485.642	0.34	0.733	-786.9885	1118.322
13	-2004.806	386.0141	-5.19	0.000	-2762.027	-1247.585
14	-84.21087	557.3091	-0.15	0.880	-1177.451	1009.029
15	-272.0706	626.9531	-0.43	0.664	-1501.927	957.7862
16	52.14725	623.4564	0.08	0.933	-1170.85	1275.145
17	-87.97605	444.9748	-0.20	0.843	-960.8567	784.9046
18	86.64728	427.2835	0.20	0.839	-751.5295	924.8241
19	-768.5372	410.1989	-1.87	0.061	-1573.2	36.12569
20	-127.7124	474.0353	-0.27	0.788	-1057.599	802.1746
21	-994.2097	463.0466	-2.15	0.032	-1902.541	-85.87858
22	608.9319	512.4911	1.19	0.235	-396.3914	1614.255
23	85.71131	650.2468	0.13	0.895	-1189.839	1361.262
24	97.82628	479.8176	0.20	0.838	-843.4034	1039.056
25	0	(omitted)				
_cons	242.1934	437.9527	0.55	0.580	-616.9124	1101.299

```
17 .
18 . reg valconsmon yessez round_yessez round lowned dreligion dsocgroup i.district if rural==0
note: 25.district omitted because of collinearity
```

Source	SS	df	MS		
Model	6.4792e+09	29	223421685	Number of obs	5236
Residual	3.4993e+10	5206	6721728.68	F(29, 5206)	33.24
				Prob > F	0.0000
				R-squared	0.1562
				Adj R-squared	0.1515
Total	4.1473e+10	5235	7922167.78	Root MSE	2592.6

valconsmon	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
yessez	16.75968	324.5245	0.05	0.959	-619.4445	652.9639
round_yessez	470.4331	156.3499	3.01	0.003	163.9217	776.9445
round	1212.059	88.31696	13.72	0.000	1038.92	1385.197
lowned	.6448666	.0353583	18.24	0.000	.5755495	.7141838
dreligion	29.10326	121.6878	0.24	0.811	-209.4559	267.6624
dsocgroup	339.9633	92.62685	3.67	0.000	158.3758	521.5508
district						
2	12.56699	275.5791	0.05	0.964	-527.6837	552.8176
3	63.67882	296.0079	0.22	0.830	-516.6208	643.9785
4	-82.07796	272.2899	-0.30	0.763	-615.8804	451.7245
5	-776.8154	274.3194	-2.83	0.005	-1314.597	-239.0343
6	318.6822	310.2527	1.03	0.304	-289.5434	926.9078
7	854.3457	257.823	3.31	0.001	348.9044	1359.787
8	842.4082	349.3771	2.41	0.016	157.4825	1527.334
9	526.3189	254.9667	2.06	0.039	26.47714	1026.161
10	-181.646	341.1255	-0.53	0.594	-850.3952	487.1033
11	-1211.655	316.986	-3.82	0.000	-1833.081	-590.2292
12	3.396488	263.301	0.01	0.990	-512.7841	519.577

13	-87.8218	355.5387	-0.25	0.805	-784.8269	609.1833
14	-233.3337	254.6256	-0.92	0.360	-732.5067	265.8393
15	-777.3038	269.7002	-2.88	0.004	-1306.029	-248.5782
16	-761.9046	268.4661	-2.84	0.005	-1288.211	-235.5983
17	-384.0236	278.8515	-1.38	0.169	-930.6896	162.6424
18	-324.6605	290.6904	-1.12	0.264	-894.5358	245.2147
19	170.9593	271.8794	0.63	0.530	-362.0384	703.9571
20	-383.5892	349.5203	-1.10	0.272	-1068.796	301.6174
21	-167.0518	315.8856	-0.53	0.597	-786.3201	452.2166
22	257.8251	236.1093	1.09	0.275	-205.0483	720.6985
23	-1189.784	426.995	-2.79	0.005	-2026.874	-352.6948
24	1.742798	307.3087	0.01	0.995	-600.7113	604.1969
25	0	(omitted)				
_cons	343.9431	251.6387	1.37	0.172	-149.3743	837.2605

```
20 . reg valconsmon yessez round_yessez round lowned dreligion dsocgroup i.district i.ncol,robust
note: 25.district omitted because of collinearity
```

Linear regression

Number of obs	= 6324
F(37, 6286)	= 21.38
Prob > F	= 0.0000
R-squared	= 0.1262
Root MSE	= 2547.7

valconsmon	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
yessez	74.01697	460.1739	0.16	0.872	-828.081	976.1149
round_yessez	300.3617	198.7366	1.51	0.131	-89.2299	689.9534
round	1171.917	78.58745	14.91	0.000	1017.859	1325.975
lowned	.1955781	.1155515	1.69	0.091	-.0309422	.4220984
dreligion	76.72957	108.8703	0.70	0.481	-136.6934	290.1525
dsocgroup	207.7651	82.6937	2.51	0.012	45.65719	369.873
district						
2	-97.50805	175.5361	-0.56	0.579	-441.6188	246.6027
3	282.5603	245.3634	1.15	0.250	-198.4358	763.5563
4	21.07968	183.471	0.11	0.909	-338.5861	380.7455
5	-780.8502	158.5587	-4.92	0.000	-1091.679	-470.0209
6	454.4055	563.0636	0.81	0.420	-649.3915	1558.202
7	744.4317	545.8714	1.36	0.173	-325.6627	1814.526
8	617.7541	361.7471	1.71	0.088	-91.39367	1326.902
9	239.4542	235.6864	1.02	0.310	-222.5715	701.4799
10	-611.4676	453.944	-1.35	0.178	-1501.353	278.4176
11	-508.6671	170.168	-2.99	0.003	-842.2544	-175.0798
12	62.30728	203.4219	0.31	0.759	-336.4691	461.0837
13	-1058.949	429.4563	-2.47	0.014	-1900.83	-217.0682
14	-219.1301	166.0879	-1.32	0.187	-544.719	106.4588
15	-772.3537	169.7306	-4.55	0.000	-1105.084	-439.6238
16	-690.5595	168.2137	-4.11	0.000	-1020.316	-360.8032
17	-218.3511	169.9779	-1.28	0.199	-551.5659	114.8636
18	-239.4968	176.7804	-1.35	0.176	-586.0466	107.0531
19	129.8254	501.4339	0.26	0.796	-853.1562	1112.807
20	-390.6206	176.4557	-2.21	0.027	-736.534	-44.70721
21	-179.919	574.6622	-0.31	0.754	-1306.453	946.6152
22	174.8587	176.0026	0.99	0.321	-170.1665	519.8838
23	-522.8024	169.9384	-3.08	0.002	-855.9397	-189.6651
24	-66.28343	171.0896	-0.39	0.698	-401.6774	269.1106
25	0	(omitted)				
ncol						
2	-176.7091	199.567	-0.89	0.376	-567.9285	214.5103
3	-373.7904	210.1317	-1.78	0.075	-785.7202	38.13938
4	-335.0248	213.6217	-1.57	0.117	-753.7962	83.74669
5	-412.986	210.8868	-1.96	0.050	-826.3962	.4241492
6	-919.2157	297.5289	-3.09	0.002	-1502.474	-335.9574
7	-479.9301	204.2259	-2.35	0.019	-880.2827	-79.57759
8	-420.9101	206.9621	-2.03	0.042	-826.6264	-15.1937

9	-558.0824	198.6436	-2.81	0.005	-947.4916	-168.6731
_cons	925.4464	232.3181	3.98	0.000	470.0235	1380.869

```
.
. reg valconsmon yessez round_yessez round lowned dreligion dsocgroup i.district i.ncol if rur
note: 25.district omitted because of collinearity
```

Source	SS	df	MS		
Model	1.1184e+09	37	30226306.1	Number of obs	1435
Residual	7.4462e+09	1397	5330143.09	F(37, 1397)	5.67
				Prob > F	0.0000
				R-squared	0.1306
				Adj R-squared	0.1076
Total	8.5646e+09	1434	5972512.7	Root MSE	2308.7

valconsmon	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
yessez	1039.064	494.0897	2.10	0.036	69.8267	2008.302
round_yessez	178.4823	326.1832	0.55	0.584	-461.3794	818.344
round	1079.078	186.2728	5.79	0.000	713.6731	1444.482
lowned	.0975538	.0250761	3.89	0.000	.048363	.1467446
dreligion	-37.40257	280.4737	-0.13	0.894	-587.5975	512.7924
dsocgroup	93.98226	184.8648	0.51	0.611	-268.6604	456.6249
district						
2	-152.1393	473.6227	-0.32	0.748	-1081.228	776.9491
3	215.8447	534.6119	0.40	0.686	-832.884	1264.573
4	18.01175	584.648	0.03	0.975	-1128.871	1164.894
5	-307.3315	461.5073	-0.67	0.506	-1212.654	597.9905
6	-467.8502	644.0102	-0.73	0.468	-1731.181	795.4811
7	-783.3417	478.1029	-1.64	0.102	-1721.219	154.5352
8	667.1589	439.3911	1.52	0.129	-194.7787	1529.096
9	-82.35793	437.4976	-0.19	0.851	-940.5811	775.8652
10	-1540.848	398.0692	-3.87	0.000	-2321.726	-759.9697
11	-121.2515	704.2764	-0.17	0.863	-1502.805	1260.302
12	132.4634	495.0031	0.27	0.789	-838.5661	1103.493
13	-1938.045	391.3625	-4.95	0.000	-2705.766	-1170.323
14	-73.08711	558.885	-0.13	0.896	-1169.431	1023.257
15	-224.1495	631.6885	-0.35	0.723	-1463.31	1015.011
16	52.24389	646.3897	0.08	0.936	-1215.755	1320.243
17	-115.5663	448.8241	-0.26	0.797	-996.0083	764.8757
18	46.49052	428.7429	0.11	0.914	-794.5587	887.5398
19	-710.137	417.2588	-1.70	0.089	-1528.658	108.3844
20	-166.3772	481.2235	-0.35	0.730	-1110.376	777.6215
21	-1041.702	469.3207	-2.22	0.027	-1962.352	-121.0531
22	476.797	530.9383	0.90	0.369	-564.7254	1518.319
23	93.22526	651.4755	0.14	0.886	-1184.751	1371.201
24	99.62339	484.5454	0.21	0.837	-850.8916	1050.138
25	0	(omitted)				
ncol						
2	-639.6072	567.7287	-1.13	0.260	-1753.3	474.0854
3	-290.8139	513.781	-0.57	0.571	-1298.679	717.0514
4	-397.4288	564.2253	-0.70	0.481	-1504.249	709.3914
5	498.2152	579.1639	0.86	0.390	-637.9096	1634.34
6	-694.9127	417.9886	-1.66	0.097	-1514.866	125.0404
7	-46.88835	562.4283	-0.08	0.934	-1150.183	1056.407
8	-658.518	594.5296	-1.11	0.268	-1824.785	507.7491
9	-1237.276	503.5934	-2.46	0.014	-2225.157	-249.3955
_cons	990.9178	601.9629	1.65	0.100	-189.9309	2171.767

```
24 . reg valconsmon yessez round_yessez round lowned dreligion dsocgroup i.district i.nco1 if rur
note: 25.district omitted because of collinearity
```

Source	SS	df	MS		
Model	6.4902e+09	37	175411071	Number of obs	4889
Residual	3.1597e+10	4851	6513577.33	F(37, 4851)	26.93
				Prob > F	0.0000
Total	3.8088e+10	4888	7792056.72	R-squared	0.1704
				Adj R-squared	0.1641
				Root MSE	2552.2

valconsmon	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
yessez	-184.5901	349.6506	-0.53	0.598	-870.0637	500.8835
round_yessez	482.6744	162.3397	2.97	0.003	164.415	800.9338
round	1211.688	94.86513	12.77	0.000	1025.709	1397.666
lowned	.6615198	.0352679	18.76	0.000	.5923788	.7306608
dreligion	42.59477	126.6751	0.34	0.737	-205.7458	290.9354
dsocgroup	277.4559	98.91956	2.80	0.005	83.52877	471.3831
district						
2	-96.55968	302.274	-0.32	0.749	-689.1538	496.0344
3	78.596	328.344	0.24	0.811	-565.107	722.299
4	-94.3975	304.1757	-0.31	0.756	-690.7197	501.9247
5	-884.6234	304.8856	-2.90	0.004	-1482.337	-286.9094
6	453.3242	316.6823	1.43	0.152	-167.5166	1074.165
7	902.4544	260.1514	3.47	0.001	392.4397	1412.469
8	879.7801	376.29	2.34	0.019	142.0811	1617.479
9	455.3652	286.478	1.59	0.112	-106.2615	1016.992
10	-43.02401	349.6877	-0.12	0.902	-728.5704	642.5224
11	-1256.031	345.3	-3.64	0.000	-1932.975	-579.0862
12	1.36837	299.6877	0.00	0.996	-586.1554	588.8921
13	-388.918	359.4011	-1.08	0.279	-1093.507	315.671
14	-247.9326	288.6437	-0.86	0.390	-813.8051	317.9399
15	-856.33	302.6442	-2.83	0.005	-1449.65	-263.0102
16	-841.1134	300.4417	-2.80	0.005	-1430.115	-252.1115
17	-455.9353	309.7384	-1.47	0.141	-1063.163	151.2923
18	-391.7467	318.9886	-1.23	0.219	-1017.109	233.6156
19	281.9977	278.2174	1.01	0.311	-263.4345	827.4299
20	-525.4263	377.8393	-1.39	0.164	-1266.163	215.31
21	1.955446	320.1037	0.01	0.995	-625.5929	629.5038
22	122.4701	269.7794	0.45	0.650	-406.4198	651.3599
23	-1231.224	446.3568	-2.76	0.006	-2106.286	-356.1629
24	-129.4623	333.2035	-0.39	0.698	-782.6921	523.7676
25	0	(omitted)				
nco1						
2	-145.7511	197.5737	-0.74	0.461	-533.0851	241.5828
3	-348.1674	202.3938	-1.72	0.085	-744.9509	48.61613
4	-326.5504	176.069	-1.85	0.064	-671.7255	18.62459
5	-473.5112	178.3032	-2.66	0.008	-823.0662	-123.9561
6	-654.2898	177.7084	-3.68	0.000	-1002.679	-305.9008
7	-471.7401	182.0015	-2.59	0.010	-828.5454	-114.9348
8	-379.8353	178.4963	-2.13	0.033	-729.769	-29.9017
9	-416.1197	168.0626	-2.48	0.013	-745.5985	-86.64091
_cons	858.0932	311.4047	2.76	0.006	247.5988	1468.588

```
26 . reg valconsmon lotsez fewsez round_fewsez  round_lotsez round lowned dreligion dsocgroup i.d
note: 21.district omitted because of collinearity
note: 25.district omitted because of collinearity

Linear regression                               Number of obs =     6324
                                                F( 38,  6285) =    21.42
                                                Prob > F      =   0.0000
                                                R-squared     =   0.1268
                                                Root MSE      =     2547
```

valconsmon	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lotsez	-222.0493	299.5305	-0.74	0.459	-809.2314	365.1327
fewsez	181.4607	427.4982	0.42	0.671	-656.5818	1019.503
round_fewsez	63.94758	241.5263	0.26	0.791	-409.5265	537.4217
round_lotsez	540.0096	258.4901	2.09	0.037	33.28085	1046.738
round	1172.511	78.54489	14.93	0.000	1018.536	1326.486
lowned	.1993065	.1158353	1.72	0.085	-.0277702	.4263833
dreligion	86.93337	107.1139	0.81	0.417	-123.0465	296.9133
dsocgroup	206.1468	82.61516	2.50	0.013	44.19288	368.1008
district						
2	-99.11729	175.6193	-0.56	0.573	-443.391	245.1565
3	283.0742	245.4828	1.15	0.249	-198.156	764.3044
4	20.77787	183.5045	0.11	0.910	-338.9537	380.5094
5	-784.3609	158.6211	-4.94	0.000	-1095.313	-473.4093
6	654.0379	371.2496	1.76	0.078	-73.73812	1381.814
7	936.342	343.5393	2.73	0.006	262.8877	1609.796
8	611.9355	362.0557	1.69	0.091	-97.81736	1321.688
9	237.3993	235.8609	1.01	0.314	-224.9685	699.7672
10	-619.9856	451.9325	-1.37	0.170	-1505.928	265.9563
11	-512.9288	170.6461	-3.01	0.003	-847.4534	-178.4042
12	62.94302	203.4463	0.31	0.757	-335.8811	461.7672
13	-1066.409	427.0909	-2.50	0.013	-1903.653	-229.1649
14	-215.0339	166.2054	-1.29	0.196	-540.8533	110.7854
15	-773.1536	169.7973	-4.55	0.000	-1106.014	-440.2929
16	-690.1278	168.2871	-4.10	0.000	-1020.028	-360.2275
17	-219.6371	170.0516	-1.29	0.197	-552.9963	113.722
18	-238.5266	176.8255	-1.35	0.177	-585.165	108.1117
19	120.0781	498.5743	0.24	0.810	-857.2978	1097.454
20	-393.7108	176.4777	-2.23	0.026	-739.6674	-47.75413
21	0	(omitted)				
22	176.1998	176.0619	1.00	0.317	-168.9417	521.3412
23	-526.2807	170.1741	-3.09	0.002	-859.8801	-192.6812
24	-68.04564	171.1974	-0.40	0.691	-403.6509	267.5596
25	0	(omitted)				
nco1						
2	-168.0858	198.8219	-0.85	0.398	-557.8446	221.6729
3	-373.8074	209.8377	-1.78	0.075	-785.1611	37.5462
4	-327.7271	212.3854	-1.54	0.123	-744.0751	88.62089
5	-415.3825	210.9527	-1.97	0.049	-828.9219	-1.843078
6	-925.5551	297.9094	-3.11	0.002	-1509.559	-341.5509
7	-492.6749	205.6363	-2.40	0.017	-895.7923	-89.55747
8	-431.272	206.5593	-2.09	0.037	-836.1987	-26.3452
9	-554.1322	198.4705	-2.79	0.005	-943.2022	-165.0623
_cons	917.2377	231.1798	3.97	0.000	464.0463	1370.429

```
28 . reg valconsmon lotsez fewsez round_fewsez  round_lotsez round lowned dreligion dsocgroup i.d
note: 21.district omitted because of collinearity
note: 25.district omitted because of collinearity
```

Source	SS	df	MS		
Model	1.1445e+09	38	30117625.5	Number of obs =	1435
Residual	7.4201e+09	1396	5315267.51	F(38, 1396) =	5.67
				Prob > F =	0.0000
				R-squared =	0.1336
				Adj R-squared =	0.1100
Total	8.5646e+09	1434	5972512.7	Root MSE =	2305.5

valconsmon	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lotsez	342.5206	530.3596	0.65	0.518	-697.8672	1382.908
fewsez	904.9981	497.0958	1.82	0.069	-70.13712	1880.133
round_fewsez	385.625	338.8775	1.14	0.255	-279.1391	1050.389
round_lotsez	-1118.477	669.8549	-1.67	0.095	-2432.507	195.5541
round	1078.235	186.0131	5.80	0.000	713.3396	1443.13
lowned	.1020117	.0251217	4.06	0.000	.0527313	.1512921
dreligion	-6.130746	280.4374	-0.02	0.983	-556.2548	543.9933
dsocgroup	101.0031	184.6339	0.55	0.584	-261.1867	463.1929
district						
2	-151.0694	472.9616	-0.32	0.749	-1078.862	776.7227
3	202.7284	533.8982	0.38	0.704	-844.6009	1250.058
4	6.808117	583.8535	0.01	0.991	-1138.517	1152.133
5	-319.3527	460.8948	-0.69	0.488	-1223.474	584.7683
6	224.2356	672.9977	0.33	0.739	-1095.96	1544.431
7	96.34335	523.6531	0.18	0.854	-930.8885	1123.575
8	655.0802	438.8114	1.49	0.136	-205.7207	1515.881
9	-101.5624	436.9727	-0.23	0.816	-958.7563	755.6315
10	-1537.424	397.5164	-3.87	0.000	-2317.218	-757.6304
11	-135.2793	703.3214	-0.19	0.848	-1514.96	1244.402
12	126.4654	494.3193	0.26	0.798	-843.2233	1096.154
13	-1956.996	390.9096	-5.01	0.000	-2723.83	-1190.163
14	-92.76663	558.1752	-0.17	0.868	-1187.719	1002.186
15	-227.5967	630.8084	-0.36	0.718	-1465.031	1009.838
16	48.85424	645.4889	0.08	0.940	-1217.379	1315.087
17	-113.8542	448.1981	-0.25	0.800	-993.0686	765.3601
18	40.95015	428.1515	0.10	0.924	-798.9395	880.8398
19	-643.4901	417.7603	-1.54	0.124	-1462.996	176.0156
20	-168.4134	480.5524	-0.35	0.726	-1111.096	774.2694
21	0	(omitted)				
22	473.634	530.1989	0.89	0.372	-566.4384	1513.706
23	94.12575	650.566	0.14	0.885	-1182.067	1370.318
24	102.5242	483.8705	0.21	0.832	-846.6675	1051.716
25	0	(omitted)				
ncol						
2	-604.3066	567.1597	-1.07	0.287	-1716.884	508.2707
3	-285.5489	513.069	-0.56	0.578	-1292.018	720.9206
4	-386.7494	563.458	-0.69	0.493	-1492.065	718.5664
5	530.2466	578.5358	0.92	0.360	-604.6468	1665.14
6	-671.1296	417.5429	-1.61	0.108	-1490.209	147.9496
7	-86.30013	561.9245	-0.15	0.878	-1188.608	1016.007
8	-624.6117	593.8966	-1.05	0.293	-1789.638	540.4142
9	-1191.138	503.3211	-2.37	0.018	-2178.485	-203.7911
_cons	930.9017	601.7323	1.55	0.122	-249.4953	2111.299

```
29 .
30 . reg valconsmon lotsez fewsez round_fewsez  round_lotsez round lowned dreligion dsocgroup i.d
note: 21.district omitted because of collinearity
note: 25.district omitted because of collinearity
```

Source	SS	df	MS	Number of obs =	4889
				F(38, 4850) =	26.32
Model	6.5108e+09	38	171335999	Prob > F =	0.0000
Residual	3.1577e+10	4850	6510681.5	R-squared =	0.1709
				Adj R-squared =	0.1644
Total	3.8088e+10	4888	7792056.72	Root MSE =	2551.6

valconsmon	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lotsez	-288.8379	335.7732	-0.86	0.390	-947.1056	369.4298
fewsez	-25.36412	360.8743	-0.07	0.944	-732.8413	682.1131
round_fewsez	194.2584	229.5347	0.85	0.397	-255.7337	644.2504
round_lotsez	682.8249	197.5582	3.46	0.001	295.5212	1070.129
round	1211.523	94.84409	12.77	0.000	1025.585	1397.46
lowned	.6635587	.0352787	18.81	0.000	.5943964	.7327209
dreligion	56.58588	126.8915	0.45	0.656	-192.1789	305.3506
dsocgroup	270.4023	98.97719	2.73	0.006	76.36219	464.4425
district						
2	-98.67452	302.2092	-0.33	0.744	-691.1415	493.7924
3	82.32404	328.2777	0.25	0.802	-561.249	725.8971
4	-95.24332	304.1085	-0.31	0.754	-691.4337	500.9471
5	-888.9337	304.8275	-2.92	0.004	-1486.534	-291.3336
6	469.0529	297.6581	1.58	0.115	-114.492	1052.598
7	916.6616	237.4751	3.86	0.000	451.1027	1382.22
8	878.289	376.2073	2.33	0.020	140.7522	1615.826
9	457.0968	286.416	1.60	0.111	-104.4084	1018.602
10	-139.6001	353.8092	-0.39	0.693	-833.2264	554.0262
11	-1258.043	345.2251	-3.64	0.000	-1934.841	-581.2452
12	2.879758	299.6223	0.01	0.992	-584.5158	590.2753
13	-454.8868	361.2339	-1.26	0.208	-1163.069	253.2954
14	-240.5326	288.6096	-0.83	0.405	-806.3383	325.273
15	-858.9122	302.5804	-2.84	0.005	-1452.107	-265.7175
16	-840.8768	300.3749	-2.80	0.005	-1429.748	-252.0058
17	-457.9428	309.6716	-1.48	0.139	-1065.04	149.1539
18	-387.5524	318.9265	-1.22	0.224	-1012.793	237.688
19	249.797	278.7452	0.90	0.370	-296.67	796.2639
20	-528.6304	377.7596	-1.40	0.162	-1269.21	211.9496
21	0	(omitted)				
22	122.1094	269.7195	0.45	0.651	-406.6631	650.8818
23	-1238.203	446.2748	-2.77	0.006	-2113.104	-363.302
24	-137.3992	333.1593	-0.41	0.680	-790.5425	515.7442
25	0	(omitted)				
nco1						
2	-134.9153	197.6238	-0.68	0.495	-522.3476	252.517
3	-354.867	202.3839	-1.75	0.080	-751.6311	41.89721
4	-323.6092	176.0376	-1.84	0.066	-668.7227	21.50436
5	-478.3232	178.2841	-2.68	0.007	-827.8409	-128.8055
6	-669.8293	177.884	-3.77	0.000	-1018.563	-321.096
7	-495.3286	182.4446	-2.71	0.007	-853.0026	-137.6545
8	-395.0518	178.6619	-2.21	0.027	-745.3102	-44.79342
9	-415.7236	168.0253	-2.47	0.013	-745.1295	-86.31781
_cons	856.7622	311.3364	2.75	0.006	246.4017	1467.123

Source: Stata output, self-elaboration of data

List of References

Aggarwal, A. (2007). *Impact of Special Economic Zones on Employment, Poverty and Human Development.* INDIAN COUNCIL FOR RESEARCH ON INTERNATIONAL ECONOMIC RELATIONS.

Aggarwal, A. (2010). *Economic Impacts of SEZs: Theoretical Approaches and Analysis of Newly Notified SEZs in India.* Munich: Munich Personal RePEc Archive.

Alkon, M. (2016). *The Developmental Effects of Special Economic Zones: Evidence from India's States.* Princeton University.

Amengual, M., & Milberg, W. (2008). *Economic development and working conditions in export processing zones: A survey of trends.* Geneva: International Labour Office- ILO Cataloguing in Publication Data .

Angrist, J., & Pischke, J. (2008). Mostly Harmless Econometrics: An Empiricist's Companion. *Princeton University Press*, pp. 227-243.

Asher, M. (2014). Gujarat and Punjab The Entrepreneur's Paradise and the Land of the Farmer. In R. Jenkins, L. Kennedy, & P. Mukhopadhyay, *Power, policy and protest: The politics of India's Special economic Zones* (p. Chapter 5). New Delhi : Oxford University Press.

Baghebo, M., & Emmanuel, N. (2015). The Impact of Poverty Alleviation Programmes on Economic Growth in Nigeria 1981 - 2013. *International Journal of Humanities and Social Science* , 177-188.

Bell, T. W. (2017). How Special Economic Zones are Quietly Advancing Freedom. *Foundation of Economic Education*.

Chandrasekhar, C. P., & Ghosh, A. J. (2014, March 31). *the hindu business line*. Retrieved from http://www.thehindubusinessline.com: http://www.thehindubusinessline.com/opinion/columns/c-p-chandrasekhar/Have-workers-in-Gujarat-benefited-from-%E2%80%9Cdevelopment%E2%80%9D/article20743934.ece

Cirera, X., & Lakshman, R. W. (2017). The impact of export processing zones on employment, wages and labour conditions in developing countries: systematic review. *Journal of Development Effectiveness*.

Cirera, X., & Lakshman, R. W. (2017). The impact of export processing zones on employment, wages and labour conditions in developing countries: systematic review,. *Journal of Development Effectiveness*, 344-360.

Cling, J.-P., & Letilly, G. (2001). *EXPORT PROCESSSING ZONES : A THREATENED INSTRUMENT FOR GLOBAL ECONOMY INSERTION ?* Document de travail DIAL / Unité de Recherche CIPRE.

Deakin, S., & Haldar, A. (2015). How Should India Reform Its Labour Laws? *Economic & Political Weekly*, 48-55.

Director of Census Operations. (2011). *Census of India 2011-Provisional Population totals.* Gujarat: Director of Census Operations.

Directorate of Economic and Statistics: Government of Gujarat. (2017, July 16). *Official Website of the Directorate of Economic and Statistics: Government of Gujarat*. Retrieved from gujecostat.gujarat.gov.in: https://gujecostat.gujarat.gov.in/district-census-handbook1

Directorate of economics and statistics: Government of Gujarat. (2017). *Socio-economic Review 2016-2017, Gujarat State.* Gandhinagar.

Economic statistical Organisation Punjab. (2017). *State Wise Data.* New Delhi: Central Statistical Organisation, New Delhi.

Farole, T. (2011). Special Economic Zones in Africa : Comparing Performance and Learning from Global Experience. *World Bank*.

FIAS. (2008). *SPECIAL ECONOMIC ZONES PERFORMANCE, LESSONS LEARNED, AND IMPLICATIONS FOR ZONE DEVELOPMENT.* Washington, DC 20433: The World Bank Group.

Frobel, F., Heinrichs, J., & Kreye, O. (1978). The new international division of labour. *Social Science Information, SAGE*, 123-142.

Fu, X., & Gao, Y. (2007). *Export Processing Zones in China: A Survey.* ILO.

Gibbon, P., Jones, S., & Thomsen, L. (2008). *An Assessment of the Impact of Export Processing Zones and an Identificationation of Approropriate Measures to Support their Development.* DANISH INSTITUTE FOR INTERNATIONAL STUDIES.

Government of Gujarat. (2017). *Official Gujarat State Portal*. Retrieved from www.gujaratindia.com: http://www.gujaratindia.com/business/special-economic-zones.htm

Government of India. (2011). *Census Of India*. Retrieved from http://censusindia.gov.in/: http://censusindia.gov.in/

Government of India. (2017, December 1). *Special Economic Zones in India.* Retrieved from sezindia.nic.in: http://sezindia.nic.in/writereaddata/pdf/StatewiseDistribution-SEZ.pdf

Government of India. (2018). *Open government data platform india*. Retrieved from https://data.gov.in/: https://data.gov.in/

Hirway, I., & Shah, N. (2011). Labour and Employment under Globalisation: The Case of Gujarat. *Economic and Political Weekly*, 57-65.

IANS. (2014). Our human development index better than Gujarat's: Jaya. *Deccan Herald*.

IANS. (2017, July 11). *business-standard*. Retrieved from http://www.business-standard.com: http://www.business-standard.com/article/economy-policy/andhra-telangana-gujarat-best-in-ease-of-doing-business-amitabh-kant-117071001366_1.html

ILO. (2002). *Employment and social policy in respect of export processing zones (EPZs).* Geneva: INTERNATIONAL LABOUR OFFICE.

ILO. (2003). *Employment and social policy in respect of export processing zones (EPZs)* . Geneva.

ILO. (2012). *India Trade Unions and Special Economic Zones* . New Delhi: Pallavi Mansingh, Suneetha Eluri and Sreejesh N P Centre for Education and Communication (CEC).

ILO. (2014). *Trade Union manual on export processing zone.* International Labour Organization .

Industries Commisionerate: Government of Gujarat. (2017, January 3). *Industries Commisionerate: Government of Gujarat*. Retrieved from ic.gujarat.gov.in: https://ic.gujarat.gov.in/status-of-special-economic-zone.aspx

Industries Commisionerate: Government of Gujarat. (2017, September 9). *Industries Commisionerate: Government of Gujarat*. Retrieved from www.ic.gujarat.gov.in: http://www.ic.gujarat.gov.in/exports-special-economic-zone.aspx

Industries Commisionerate: Government of Gujarat. (2017, January 9). *Industries Commisionerate: Government of Gujarat*. Retrieved from www.ic.gujarat.gov.in: http://www.ic.gujarat.gov.in/exports-special-economic-zone.aspx

Industries Commisionerate: Government of Gujarat. (2017, December 7). *Industries Commisionerate: Government of Gujarat*. Retrieved from ic.gujarat.gov.in: https://ic.gujarat.gov.in/special-economic-zone-scheme.aspx

inflation.eu. (2018). *www.inflation.eu/*. Retrieved from inflation.eu: http://www.inflation.eu/

Institute of Applied manpower research, government of india. (2011). *India Human Development Report 2011: Towards social inclusion.* Retrieved from www.im4change.org: http://www.im4change.org/docs/340IHDR_Summary.pdf

International Household Survey Network. (2014, February 19). *IHSN International Household Survey Network*. Retrieved from http://catalog.ihsn.org: http://catalog.ihsn.org/index.php/catalog/4164

International household Survey Network. (2018). *IHSN International household Survey Network*. Retrieved from www.ihsn.org/: http://www.ihsn.org/

Jenkins, R., Kennedy, L. M., & Pradhan, K. C. (2015). Special Economic Zones in India: Interrogating the Nexus of Land, Development and Urbanization . *Environment and Urbanization Asia* , 1-17.

Kabeer, N., & Mahmud, S. (2004). GLOBALIZATION, GENDER AND POVERTY: BANGLADESHI WOMEN WORKERS IN EXPORT AND LOCAL MARKETS. *Journal of International Development*, 93–109.

Karunaratne, C., & Abayasekara, A. (2013). *Addressing Non-tariff Measures in ASEAN: Impact of EPZs on poverty reduction and trade facilitation in Sri Lanka.* ARTNeT Working Paper No. 134, October 2013, Bangkok, ESCAP; Available at www.artnetontrade.org.: ASIA-PACIFIC RESEARCH AND TRAINING NETWORK ON TRADE.

Katchova, A. (2013). *econometricsacademy*. Retrieved from https://sites.google.com/site/econometricsacademy: https://sites.google.com/site/econometricsacademy/econometrics-models/propensity-score-matching

Kraft, M. (2017). *photo.martinkraft.com*. Retrieved from free license CC BY-SA 3.0: https://photo.martinkraft.com/

Liberato, A., & Fannell, D. (2007). Gender and Well-being in the Dominican Republic The Impact of Free Trade Zone Employment and Female Headship. *World Development* , 394–409.

Magombeyi, M., & Odhiambo, N. (2017). Causal relationship between FDI and poverty reduction in South Africa. *Cogent Economics & Finance* , 1-12.

Magombeyia, M. T., & Odhiambob, P. N. (2017). DOES FOREIGN DIRECT INVESTMENT REDUCE POVERTY? EMPIRICAL EVIDENCE FROM TANZANIA. *Journal of Economics and Business*, 101-116.

Menon, S. V. (2008). Drivers of economic growth in Gujarat. *Munich Personal RePEc Archive, ICFAI Business School, Ahmedabad*, 1-11.

Millath, A., & Thowseaf, S. (2016). EXPORT PERFORMANCE OF SPECIAL ECONOMIC ZONES IN INDIA AND ITS ECONOMIC CONTRIBUTION. *International Journal of Innovative Research in Management Studies*, 24-28.

Ministry of Commerce & Industry, Department of Commerce. (2017, February 16). *Special Economic Zones in India: Ministry of Commerce & Industry, Department of Commerce.* Retrieved from sezindia.nic.in: http://sezindia.nic.in/upload/uploadfiles/files/4Sector-wise%20distribution-SEZ.pdf

Ministry of Finance: government of India. (2011). *Economic Survey 2011-12* .

Ministry of Home Affairs, Government of India. (2011). *Census of India.* Retrieved from censusindia.gov.in: http://censusindia.gov.in/2011-prov-results/paper2/data_files/India2/1.%20Data%20Highlight.pdf

Ministry of Statistics & Programme Implementation. (2018). *Ministry of Statistics & Programme Implementation*. Retrieved from www.mospi.gov.in: http://www.mospi.gov.in/national-sample-survey-office-nsso

Ministry of Statistics and Programme Implementation; Government of India; National Sample Survey Office. (2011). *Household Consumption of Various goods and servicces in India : 2011-2012.* NSS 68th Round, National Sample Survey Office.

Mireri, C. (2000). The impact of export processing zone development of employment creation in Kenya. *Singapore Journal of Tropical Geography*, 149-165.

Mukherjee, A., Pal, P., Deb, S., Ray, S., & Goyal, T. M. (2016). *Special Economic Zones In India.* India: Springer.

Nel, E. L., & Rogerson, C. M. (2013). Special Economic Zones in South Africa: Reflections from International Debates. *Springer Science*.

Ngai, P. (2004). Women workers and precarious employment in Shenzhen Special Economic Zone, China. *Gender and Development* , 29-36.

Nielsen, G., & King, R. (2016). *Why Propensity Scores should not be used for matching.*

Palit, A. (2009). Growth of Special Economic Zones (SEZs) in India:Issues and Perspectives. *Journal of Infrastructure Development* , 133–152.

Pandit, N. (2014). Special Economic Zones (SEZS) in India and Gujarat: A Policy and Performance Perspective. *International Research Journlan of Business and Management* , 36-49.

Pandit, N., & Chari, V. (2011). CARBON CREDIT STORAGE: A STUDY OF HOW TO MEASURE AND ACCOUNT POSTING. *Review of Business Research*, 94-98.

Pradhan, J. P., & Das, K. (2016). *Manufacturing Exports from Indian State.* New Delhi Heidelberg New York Dordrecht London: Springer India.

Rosenbaum, P. R., & Rubin, D. B. (1983). The Central Role of the Propensity Score in Observational Studies for Causal effects. *Biometrika*, 41-55.

Sanders, S. R., & Brown, D. L. (2012). The Migratory Response of Labor to Special Economic . *Population Ressearch and Policy Review; Springer Science+Business Media*, 141–164.

Sen, S., & Dasgupta, B. (2008). Labour under Stress: Findings from a Survey. *Economic and Political Weekly*, 65-72.

Shah, D. (2009). Special Economic Zones in India: A Review of Investment, Trade, Employment Generation and Impact Assessment. *INDIAN JOURNAL OF AGRICULTURAL ECONOMICS*, 431-441.

Sharma, N. K. (2009). Special Economic Zones: Socio-Economic Implications. *Economic and Political Weekly*, 18-21.

Sood, A. (2015). Industrial townships and the policy facilitation of corporate urbanisation in India. *Urban Studies Journal Limited*, 1359–1378.

Stuart, E. (2010). Matching Methods for Causal Inference: A Review and a Look Forward. *Statistical Science*, 1–21.

The Economist. (2015). Not so special - Special Economic Zones. *The Economist*.

The Economist. (2015, December 8). *The Economist intelligent unit*. Retrieved from country.eiu.com: http://country.eiu.com.esc-web.lib.cbs.dk/article.aspx?articleid=1403748324

Timmer, C. P., Falcon, W. P., & Pearson, S. R. (1983). Food policy Analysis. *Johns Hopkins University Press*, 43.

TNN. (2017, December 19). *the times of india*. Retrieved from timesofindia.indiatimes.com: https://timesofindia.indiatimes.com/india/why-bjp-got-more-votes-but-fewer-seats/articleshow/62126976.cms

Tzannatos, Z., & Kusago, T. (1998). *Export Processing Zones: A Review in Need of Update.* Washington DC: The World Bank.

UNDP. (n.d.). *United nation development program*. Retrieved from hdr.undp.org: http://hdr.undp.org/en/content/human-development-index-hdi

Wang, J. (2013). The economic impact of Special Economic Zones: Evidence from Chinese municipalities. *Journal of Development Economics*, 133–147.

World Custom Organization . (2018, April 17). *world custom orrganization*. Retrieved from www.wcoomd.org: http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/conventions/pf_revised_kyoto_conv/kyoto_new/spand.aspx

Zeng, D. Z. (2016). Special Economic Zones: Lessons from the Global Experience. *PEDL Synthesis Series | No. 1*.

Zeng, X., Zhang, C., Chen, L., Yang, X., & Su, Y. (2012). *China EXPORT PROCESSING ZONES IN CHINA: A SURVEY AND A CASE STUDY.* International Labour Organization.

Zohir, S. C. (2001). *Gender Balance in the EPZ: A Socio-Economic Study of Dhaka Export Processing Zone in Bangladesh.* Dhaka, Bangladesh: Bangladesh Institute of Development Studies.