Impact of Investment Incentives on Employment in TRNC

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Submitted to the
Institute of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

Master of Science
in
Economics

Eastern Mediterranean University
November 2021
Gazimağusa, North Cyprus

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ABSTRACT

After 1974, North of Cyprus became a unique country, and the markets in the country faced various obstacles due to its international unrecognition and controversial property regime. TRNC governments have developed various incentive programs to eliminate market failures, increase investment attractiveness and eliminate geopolitical problems. The Investment Incentives Law (47/2000), which is operated under the State Planning Organisation, is the most comprehensive and widely used of the implemented programmes. Although a priority sector has not been determined within the scope of this law, the main beneficiary sectors are tourism and industry. The Law provides investors with various tax breaks and exemptions, as well as land allocation, subsidized loans, and other exemptions. This study examines the relationship between investment incentives given in Turkish Republic of Northern Cyprus since 2002 and employment in the country. The main research point of the study is to what extent investment incentives affect domestic employment and sectoral employment. In line with the results obtained, it has been concluded that investment incentives given to the industrial sector affect domestic employment, while tourism investment incentives affect more of foreign employment. In addition, industrial investment incentives positively affect employment in the industry sector and service sector investment incentives positively affect employment in the services sector. It has also been determined that industrial investments affect employment with a lag of one year and tourism investments with a lag of two years.

Keywords: Investment, Incentives, Employment, Northern Cyprus

ÖZ

1974'ten sonra Kuzey Kıbrıs kendine özgü bir ülke haline gelmiş, uluslararası tanınmamışlık ve tartışmalı mülkiyet rejimi nedeniyle ülkedeki piyasalar çeşitli engellerle karşı karşıya kalmıştır. Kuzey Kıbrıs Türk Cumhuriyeti hükümetleri piyasa aksaklıklarını gidermek, yatırım açısından çekiciliği artırmak ve jeopolitik sorunları ortadan kaldırmak için çeşitli teşvik programları geliştirmiştirler. KKTC Başbakanlık Devlet Planlama Örgütü himayesinde uygulanan Yatırım Teşvik Yasası (47/2000), programların en kapsamlı ve en yaygın olarak kullanılanıdır. Bu yasa kapsamında öncelikli bir sektör belirlenmemiş olsa da başlıca fayda sağlayan sektörler turizm ve sanayi sektörleridir. Yasa, yatırımcılara çeşitli vergi indirimi ve muafiyetler ile arazi tahsisi, sübvansiyonlu kredi ve diğer muafiyetler sağlamaktadır. Bu çalışma, Kuzey Kıbrıs'ta 2002 yılından bu yana verilen yatırım teşvikleri ile ülkedeki istihdam arasındaki ilişkiyi incelemektedir. Çalışmanın temel araştırma noktası yatırım teşviklerinin yerli istihdam ile sektörel istihdamları ne derece etkilediği yönündedir. Elde edilen sonuçlar doğrultusunda sanayi sektörüne verilen yatırım teşviklerinin yerli istihdamını etkilerken, turizm yatırım teşviklerinin daha fazla yabancı istihdamını etkilediği sonucuna ulaşılmıştır. Ayrıca sanayi yatırımları teşviklerinin sanayi sektöründeki, hizmet sektörü yatırım teşviklerinin de hizmetler sektörü istihdamını olumlu yönde etkilediği. Sanayi yatırımlarının bir yıl, turizm yatırımlarının ise iki yıl gecikmeli olarak istihdamı etkilediği de tespit edilmiştir.

Anahtar Kelimeler: Yatırım, Teşvik, İstihdam, Kuzey Kıbrıs

ACKNOWLEDGEMENT

First and foremost, I am extremely grateful to my supervisor, Asst. Prof. Dr. Yenal Süreç for his invaluable advice, continuous support, and patience during my masters' degree study. His immense knowledge and plentiful experience have encouraged me in all the time of my academic research and daily life. I would also like to thank to my jury members Prof. Dr. Hasan Güngör and Assist. Prof. Dr. Fehiman Eminer. I would like to thank all the members of Eastern Mediterranean University's Economics Department. It is their kind help and support that have made my study and life enjoyable in the campus. I also would like to thank my previous lecturers in the Middle East Technical University for their emotional support all time. Finally, I would like to express my gratitude to my parents, my colleagues at SOS Children's Village and my friends. Without their tremendous understanding and encouragement in the past few years, it would be impossible for me to complete my study.

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey Fuller
CPI	Consumer Price Index
EU	European Union
FDI	Foreign Direct Investment
GAP	South Anatolian Project
GDP	Gross Domestic Product
MICE	Meetings, Incentives, Conferencing, Exhibitions
PP	Phillips Perron
RER	Real Exchange Rate
R&D	Research and Development
RER	Real Exchange Rate
SPO:	State Planning Organization
SME	Small and Medium Enterprises
TRNC	Turkish Republic of Northern Cyprus
UNCTAD	The United Nations Conference on Trade and Development
US	United States of America

Chapter 1

INTRODUCTION

The investment incentives are among the main policy instruments used by the governments to attract investors to a specific sector or to a specific geographical area in an economy. There are various incentive tools used by different countries to attract either domestic or foreign investors to the handicapped areas or sectors to boost the economic growth. TRNC is a sui-generis case in terms of politically, economically and sociologically as a divided small island economy. Not only it has the handicap of being a small island but internationally non recognition as well as conflictual property regime discourages many investors. In an economy having this much of handicap requires additional incentives to attract the investors. TRNC governments introduced various incentive schemes varying from exports to use of renewable energy, but the bulk of incentive regime is lying under the Law of Investment Incentives 47/2000, which regulates almost 80% of all incentives provided by the government of TRNC.

The Law of Investment Incentives enacted from the parliament in 2000 and being implemented a year after in 2001. Looking over the investment projects supported under the Incentive Law during those 20 years period of time it can be easily seen that majority of the projects are tourism investments. Almost all of the tourism projects are the hotel construction projects. There are some other projects supported within the content of the Law like investments in manufacturing industry, communication works,

accommodation for university students and recently private hospital investments are also supported through the facilities of the Law.

Effectiveness of the so-called Investment Incentives Law is a debated topic in TRNC. There are many critics about the efficiency and effectiveness of the Law. Some say it needs to be revised according to the changing condition and trends in TRNC economy as well as the whole world. Looking to the literature on the investment incentive there are many studies internationally but almost none for TRNC case. Most recent one on TRNC incentive regime (which was dealing with other incentives and subsidies regime as well) was the "TRNC Competitiveness Report" published by the Turkish Cypriot Chamber of Commerce in 2020. Report was containing sections on country competitiveness in the format of World Economic Forum as well as a special section devoted to a specific topic chosen by the Chamber each year. The 2020 issue of the Report written by Süreç and Eminer focused on the incentives in the Turkish Republic of Northern Cyprus. Having read the report on TRNC incentive regimes and subsidy schemes created some questions on my mind. Knowing that unemployment is one the main problems of TRNC and youth unemployment is the problem of not only in TRNC but all over the world I asked myself how effective all these investment incentives in creating employment in TRNC. This question formed the main research question of my thesis.

TRNC as a small island economy is depending on outside world in many ways. For consumption of many products it depends on imports, for generating revenue depends on exports and tourism. In terms of labour market due to the size of population and the available skills of the labour force it depends on foreign labour force as well. Many domestic companies complain that they cannot find many skills available domestically

and they import the labour force from abroad, mainly from Turkey. This inflow of labour can not only be considered as lack of domestic skills but can be explained with the wage differences between TRNC and other developing nations (such as Southeast Asian countries and recently some African nations). So, the main hypothesis of the thesis is designed as whether the investment incentives are affecting employment positively. However, some sub hypotheses were developed as well. Sub hypotheses were categorised into two sections; first, whether the investment incentives are affecting mainly local employment or foreign workforce employment and the second, sectoral investments (industrial investments, services investments and tourism investments) affecting the employment in the relevant sectors.

Data finding is always a problem in TRNC. Usually, statistics are either not collected or not published by the relevant public institutions. Since the major parameter of this thesis was investment incentives, data was collected from State Planning Organisation as the relevant institution. Due to the protection of personal data, Institution did not provide the details of beneficiaries of incentives, but they provided the financial magnitude and the number of projects supported within the content of the Law from 2002 until 2020. They also provided the sectoral distributions of the projects but not any information about how much of those supported projects completed so far. Second important data for the test of the hypothesis was the employment figures. Official published statistics was showing the total sectoral employment figures but missing the diversification of domestic employment and foreign employment status. In order to find out this variation in employment data was collected from Social Security Department. They were keeping the records of employed people on the basis of their citizenship however not separated according to which sectors they were employed.

They provided the figures of employment in three sectors as agriculture, industry and services from 1977 to 2020 but the diversification of employment according to citizenship was available from 2002 to 2020 onwards. Other control variables such as wages, exchange rate, number of hotel beds and GDP were collected from the official statistics published by State Planning Organisation.

By using the available data, Ordinary Least Squares (OLS) regression estimations were used to analyse the impact of ivestment incentives on employment. Furthermore, Unit Root Tests were applied to measure the validity of the variables selected for the model. While making analysis, some problems occurred due to the data unavailability. For example, there wasn't detailed record of employed people, and this led us to make the analysis with another method. Another problem was the missing completion periods of each investment which was hiding the fact that when these businesses start to provide employment after granted with incentives.

After this introductory chapter of the thesis which gives general information about the research question, and the various stages of the study Chapter 2 follows with a brief information about the economic structure of TRNC economy and the incentives used in TRNC. Chapter 3 deals with literature review of investment incentives and its relationship with employment both around the world and in TRNC. Chapter 4 is about the data, model and the specification of hypothesis and sub hypothesis. Chapter 5 deals with the empirical findings and chapter 6 conclusion deals with the main results of the study as well as the policy suggestions and further study suggestions.

Chapter 2

TRNC ECONOMY

2.1 An Overview of TRNC Economy

Cyprus is the third largest island in the Mediterranean Sea. The Island has been ruled by various states during the history. After a century long British rule in 1960, the Republic of Cyprus is declared. However due to inter-communal conflicts, the island is divided into two parts in 1974. The northern part of the island is governed by the Turkish Republic of Northern Cyprus and the southern part is governed by Republic of Cyprus. The latter is internationally recognised on the other hand the former is not. According to World Bank and UNCTAD's definitions economies with less than 1 million population considered as small economies. TRNC with its 3,242 km^2 area and 382,500 population is a typical small size economy[1].

There are some other common characteristics of small island states that arises due to their sizes as well as some geographical features, such as having no connection with the mainland. This remoteness always makes them to be fragile and dependent on foreign markets either for resource supplies or sale of domestic goods and services. Many islands in the Pacific or Caribbean face with natural disasters like hurricanes or threat of rises in the sea levels which makes their economies more prone to threats. In

1 TRNC Statistics Office

2005-year, tropical storm Katrina destructed the 80% of the Haitian economy and even caused $101 billion (Gibbens, 2019) worth of damage in US economy.

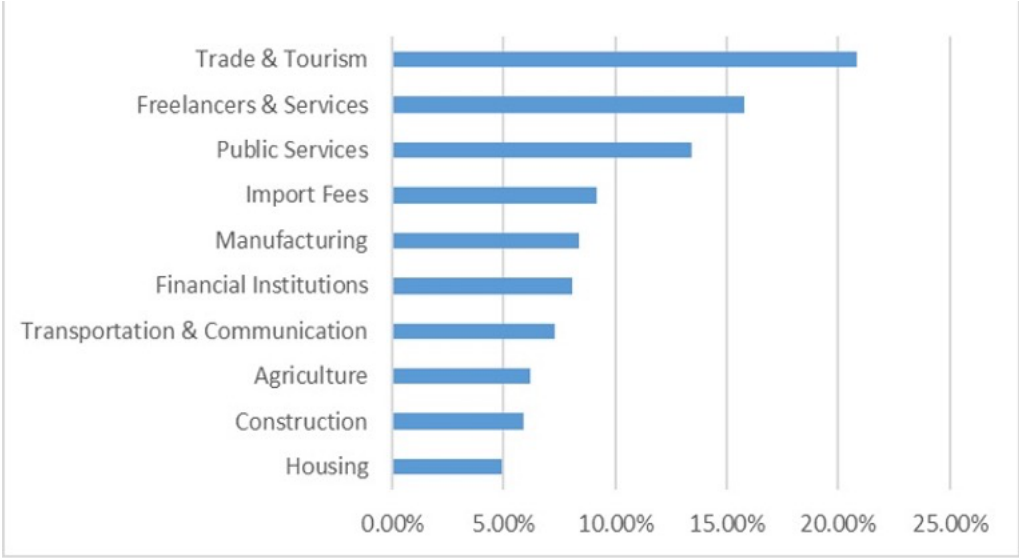

Figure 1: GDP Composition of TRNC

Besides being a small island economy, TRNC economy can be considered as an upper middle income developing country with its per capita GDP around $12,000, according to World Bank. As an island economy supply of services dominates the GDP. Mainly tourism and related hospitality businesses, followed by higher education provided by the universities mainly to foreign students from abroad. Beyond the provision of services processed agricultural products are the major industrial production of TRNC. Especially dairy products, where traditional halloumi is the major export item. Beyond dairy production, alcoholic beverages, olive oil, metal and wood processing mainly for furniture and construction are the industrial production areas of the economy. Agricultural production is also a traditional area for production such as grains, citrus, potatoes, carob and olive. Most of these products are either exported in raw form or used as input by the domestic manufacturing industry.

TRNC uses Turkish Lira as the official currency. Any fluctuations in the value of Turkish Lira directly influences the macroeconomic balances of TRNC economy. Since TRNC economy depends on imports from abroad any devaluation in the value of Turkish Lira creates pressure on imported prices which is reflected into economy in the form of inflation. Not only fluctuations of Turkish Lira but any economic crisis in Turkish economy influences TRNC economy very deeply due to the dependence to the Turkish market both for tourism, higher education and imports and exports of goods. As a result of this dependency on Turkish economy and Turkish Lira, GDP growth rate of TRNC fluctuates very widely as can be seen from the below figure. Having years of large growth rates may be followed by quite high decline in GDP growth rates in the following years. Frequent macroeconomic ups and downs are another negative factor in terms of investment climate of the country.

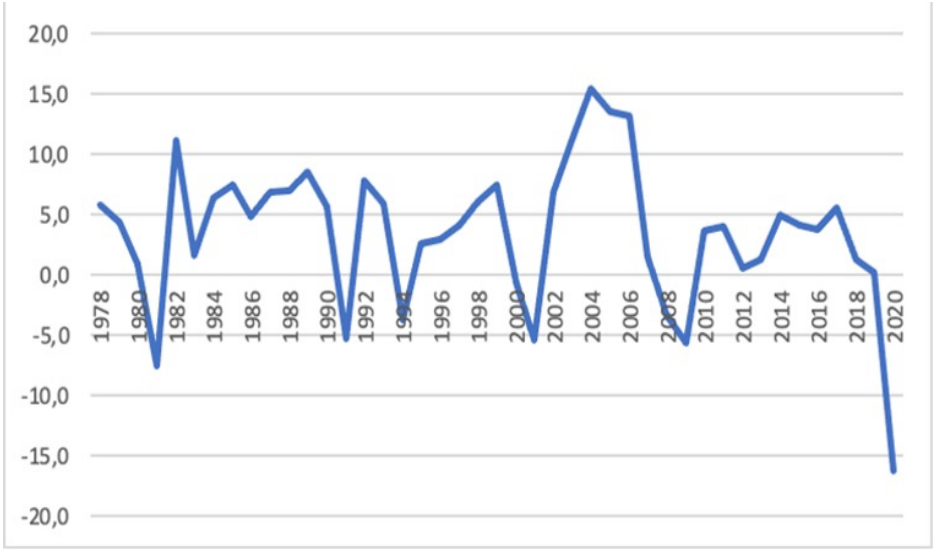

Figure 2: GDP Growth Rates of TRNC (1978-2020)

There are certain factors causing sudden decline or sharp increase in GDP growth rates. Such as the failure of the banking system in the year of 2000 followed by a very large devaluation of Turkish Lira in 2001 can explain the negative trend of those years.

Following this downturn in the economy, followed by the positive phase partly due to positive atmosphere created by the UN Peace Plan called “Annan Plan” which mainly affected property markets and expanded the number of housing constructions due to predictability in the property regime. This positive trend is also supported by the stability of the Turkish Lira due to the economic policies implemented in Turkey. As the two leading sectors tourism and higher education sector also have positive contributions to the economy in terms of external demand. Number of tourist arrivals increased in recent years due to the increased number of flights after the privatisation of only airport of TRNC and due to the increase in number of hotel beds due to new hotel investments and casinos opened.

2.2 Employment Structure in TRNC

Island economies not only scarce in natural resources but lack of sufficient amount of labour as well. Population as a source of labour is also limited resource in island economies. Not only its limited in size but also the skill diversification is also a limitation for these small economies. Scarcity of labour force usually supported with foreign labour through the flexible working and immigration rules. TRNC as many other island economies majority of employment is provided by services. According to the State Planning Organization’s data, not only public sector employment holds 18.6 % of total employment but the share of all services employment is over 70%. Following graph show the trend in sectoral employment.

TRNC economy specialised on two labour intensive services area, namely as tourism and higher education. Natural advantages of mild climate and availability of sandy beaches created a comparative advantage for both sides of Cyprus. Beyond the tourism TRNC also specialised in higher education as well. Accepting around 80,000 students

from various countries all over the world is a source of service exports for the economy[2]. Malta, another island in the Mediterranean also depends on labour intensive services sector like tourism and language education (Grech, 2016).

As it is seen on the Figure 1 that the share of employment in service sector is increasing in time. According to the Figure 3 below there is shift in the labour force both from industry and agriculture to services. This both because of growing in services sector (mainly in tourism and higher education) which absorbs more labour and partly because of the labour released from agriculture as due to because of mechanisation in agriculture as well as its part time nature whose many people prefer to do agricultural production as a part time business additional to their occupations. Beyond all these structural facts a contrary trend is seen in the years between 2003 and 2006 as a sharp fall in services sector and a sharp rise in manufacturing sector.

When we look under the service sector employment tourism is the major area of employment. As shown in the Figure 3 below, the percentage of tourism sector employees to the total number of service sector employees volatiles within the years. It reaches the lowest percentage in the year of 1983 and then it rises until 1998. Until 2007, it falls, it starts to rise but then it falls again. It increases till the year of 2011 and then again it falls. At the end, still it is observed that the percentage of tourism sector employees to the total number of services sector employees increased from 12% to 25% by 2017.

2 YODAK (Higher Education Assesment, Planning and Accreditaion Council)

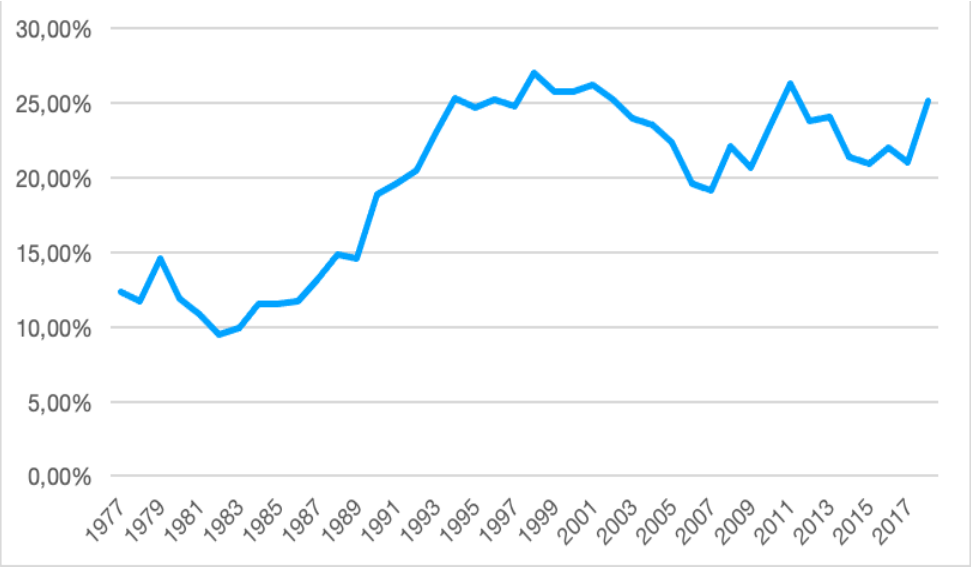

Figure 3: Percentage of Tourism Employees

Structure of the tourism sector in TRNC has changed in time as well. Until the end of 90's mainly the small and medium sized hotels were more common however together with the closure of casino businesses in Turkey, large scale hotels started to be built with casinos. Casinos in Turkey have been closed by the year 1998 (Turenç, 1998) and most of them flow in TRNC under a hotel establishment. After the closure of the casinos in Turkey and moving into TRNC, government started to give licence with a condition of operating together with at least 1000 bed capacity. This precondition increased the number of larger hotels with the casinos in Turkish Republic of Northern Cyprus. Figure 4 below shows the number of hotels and the bed capacity in the Turkish Republic of Northern Cyprus between the years 1977 and 2017. Together with the help of casino openings as well as moving to the mass tourism bed capacity increased from 5,000 levels in 70's to 20,000's in 2000's.

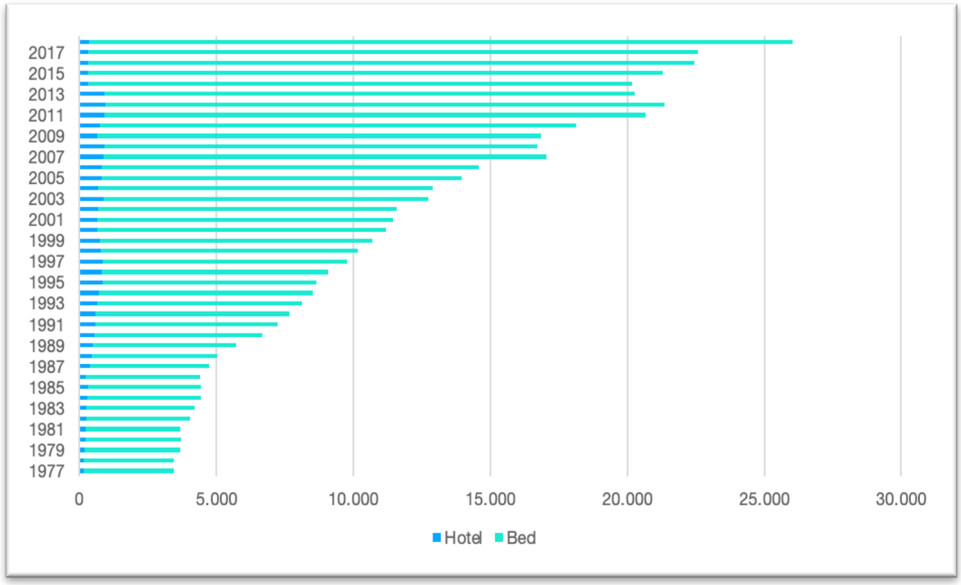

Figure 4: Number of Hotels and Bed Capacity

As the bed capacity of tourism sector increased the number of employees in the tourism sector also increased. Most of the hotels were used to be small or medium sized in the 70's and 80's however together with the opening of casinos, larger bed capacity hotels started to open.

Following figure 5 derived from State Planning Organization's statistics, shows the number of tourism sector employee per bed. It can be clearly seen from the figure that employee per bed is increasing year by year. In the beginning it was 0,4 employee per bed however, by the year of 2017 it is seen that it exceeds 0,7 employee per bed. There is fall between the years 2003 and 2005 which can be explained by the shift of employees to the construction sector due to the expansion of that sector as explained earlier. Not only hotel employees are counted as tourism sector employee, but casino employees are also counted as tourism sector employee as well.

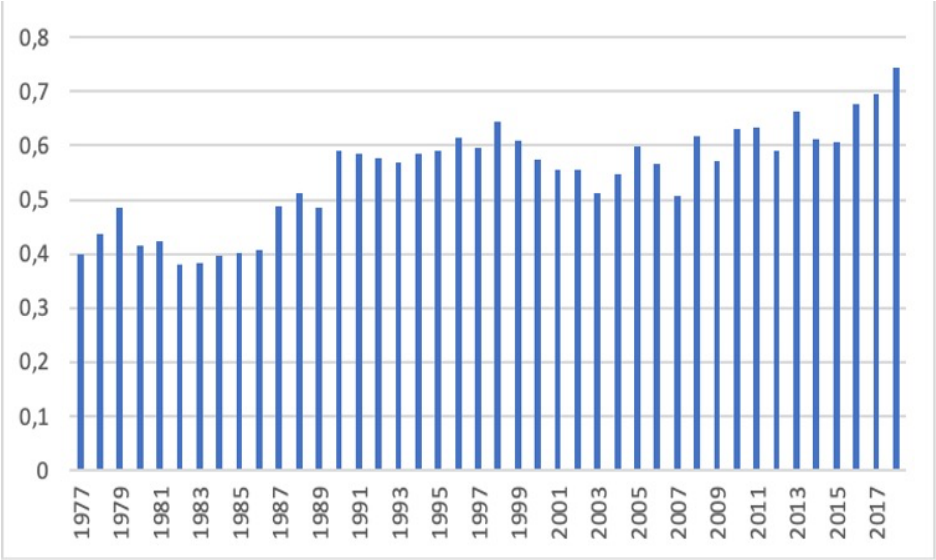

Figure 5: Tourism Sector Employee per Bed

Another aspect that needs special attention is the profile of the employment in TRNC. Due to the lack of skills and number of labours, many businesses can bring foreign labour from abroad. Due to the wage differences and working hours construction sector and tourism sector employs a greater number of foreign workers. From the Social Security Institution statistics following graph is derived showing the percentages of domestic labour and foreign labour in whole economy. Here, it is observed that until the year 2006 there was huge gap in favour of domestic labour. Such as in 2002, more than the 80% of the labour force was seen as from domestic market but then this ratio fell until 50%'s recently. On the other hand, share of foreign labour force was increasing. Actually, this sudden change in employee origins was not as a result of inflow of foreign workers but due to the registry of the illegal immigrants with a new immigration law as the period's director of Labour Department, İsmet Lisaniler's statement. Majority of workers originating from Turkey was employed in many sectors without any official registry until that year. Together with an amnesty

for foreign worker they started to be registered into the system and that caused a sudden increase in the ratio of foreign workers.

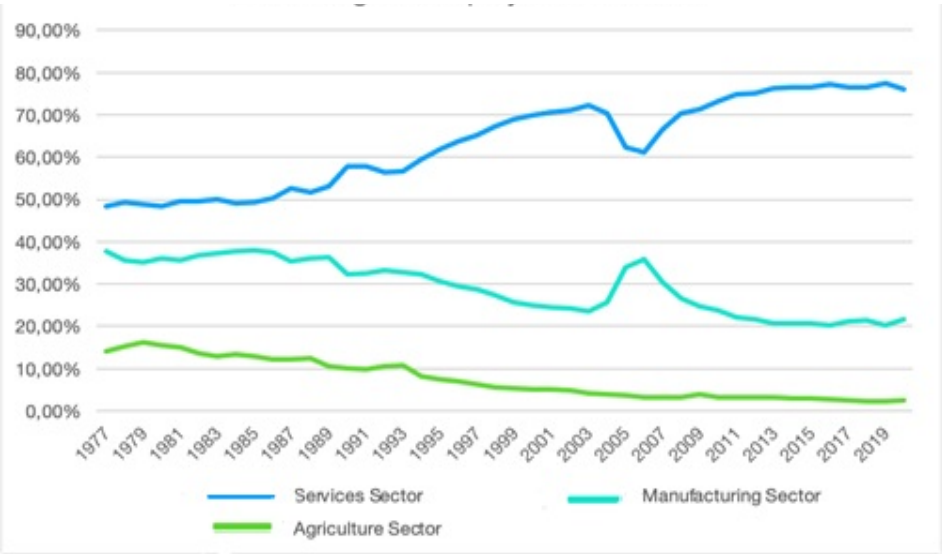

Figure 6: Percentage of Employees in Sectors

TRNC has population less than 1 million. Having this small size population as well as with deficiency of certain skills creates shortages in labour market. Looser immigration rules and bilateral agreements with mainland Turkey served for fulfilling the shortage of labour. Labour movement from Turkey started since after 1974 but for agricultural production mainly. However, after 80's and 90's due to the growing economic activity more labour is demanded by many sectors. Having geographical and cultural proximity with Turkey made it easier for the movement of labour. Together with improvement in wages in Turkey, local businesses started to import labour from other Asian or Middle Eastern countries like Pakistan, İran, Turkmenistan or Bangladesh. Following figure shows the composition of foreign workers in 2018 according to Ministry of Labour statistics. Beyond the official inflow of labour from those countries there are many cases whose mainly African country nationals arriving to island as university student status but later joining to the labour force in many sectors

varying from construction to manufacturing and some services as well. However, since most of these people are working unregistered, there is no data showing neither the number nor the percentage distribution.

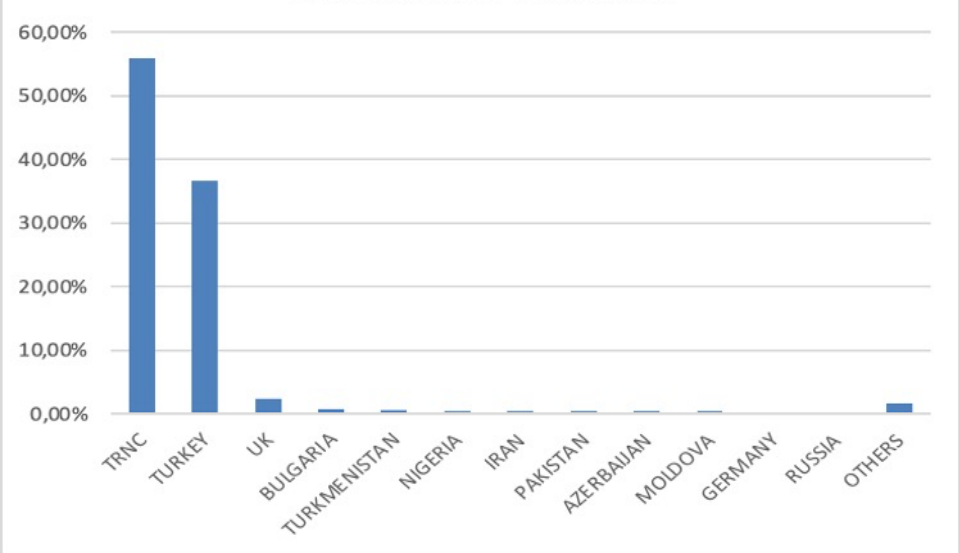

Figure 7: Composition of Population in TRNC

Chapter 3

INVESTMENT INCENTIVES AND EMPLOYMENT RELATIONSHIP

3.1 Literature Review of Investment Incentives

Incentives are one of the main policy tools that are used by governments to promote and support the specified sectors in the economies. Governments usually use incentive measures to direct the investment either into a geographical area or to favour the investments to a certain economic activity or a sector. There are various instruments for incentive policy but tax exemptions, tax breaks, tax reductions are most popular ones. Granting land, providing subsidized credit, or giving licence for construction permits are also widely preferred. Nowadays most popular incentive schemes are directing the areas of research and development, energy saving or use of renewable energy sources (Crespi et al, 2016). In some countries governments construct the infrastructure for the investors in order to attract investment to that specific region. With the new investments and additional economic activities in the region, regional development is expected. One example to this regional development project is South Anatolian Project (GAP) held by the Turkish Government in 80's. On the other hand, sometimes governments use some policy tools to discourage some economic activities in some geographic region or in an industry. With this type of discouraging policies, governments usually aim to protect the environment or a depletable resources in an economy. For example, in Lake Linow area located in Indonesia, government applies disincentive method in order to protect natural resources in that area (Boka, 2016).

Selecting the investment areas for special support is usually related with the economic structure of the country. If a special production area or a sector is considered as the leading force of the economy, then investment into those areas supported with the incentives. Usually, small island economies select tourism and tourism related activities as the leading sector of their economy and provide support packages or incentive schemes for the sector and investments in the sector. However, there are different categories of countries whose are using incentive schemes for various other investment areas in order to achieve economic growth and employment in return. For example, Santa (2018) in his paper analysed the case of Philippines who used fiscal incentives for tourism development. Philippines implemented tourism enterprises zone as fiscal incentives policy and favoured the investment into those areas mainly. Beyond the fiscal tools employed he also stressed the requirement of policy networks and advocacy as the success of the incentives schemes.

Gudkov, Bedkova and Dudine (2017) analysed the tax incentives as a factor of effective development of domestic tourism industry in Russia. They found out that applying incentives in tax reductions leads to obtaining financial benefits by the state with a positive social and investment effect. The proposed approach will make it possible to support the enterprises of domestic tourism by stimulating tourist flows to contribute to sustainable development of the whole tourism industry even under the temporary isolation of Russia. There are five effects of the development of the tourism which are creating employment, creating a favourable image, increasing budget balance, developing infrastructure and increasing living standards. Diaz and Diaz (2018) discussed the special incentives for the rehabilitation of the tourism destinations. They dealt with the incentives on the fixed capital investment in tourism

areas, rehabilitation of lodging, urban planning and their financial requirements. They compare these investment areas with other regions and conclude that with the increase of number of beds and the category the better the company's position will be, because the renewals increase without a proportional growth. Glenn McCentry (2018), focused mainly on casino tourism and related tourism area as the meetings, conventions and exhibitions in Macao. It is claimed that Macao became leader gaming destination in 2006.

Andergassen and Candela (2009), found out that the forward linkages of multinational investments in a less developed country. They found out that overnight stays increase the number of tourism related goods and services and if those goods and services are supplied locally, this can be represented as the forward linkage of the foreign direct investment in tourism. Subsidising directly local development may be counter production since it increases the multinationals' incentives to adopt a domination strategy, that's to say adopting duty free imports.

Munyanyi & Chiromba (2015), analysed the tax incentives and the investment expansion in Zimbabwe's tourism industry. Many less developed countries, like Zimbabwe, also uses tax incentives to attract investors into their countries. Rather than the effectiveness of the fiscal tools they also focused on the governments' political standing like the impact of being transparent and accountable. They claim that governments' transparency and accountability is more effective on economic growth that the use of fiscal incentives. They also suggest that the developing countries, have capacity to grow their tourism industry without implementing tax incentives because; tax incentives will not benefit in its early stage as it will be making losses and tax incentives are short term while investments are long term. Rodriguez et. Al (2014) also

differentiates the impact and effectiveness of the various fiscal policies on various scale of companies. They found that incentive tools like tax credit, tax breaks are more effective on large scale companies who try to reduce the corporate tax burden on companies where the public grants usually attract the interest of more of SMEs who are in need of more financial support rather than tax breaks.

Other than tourism, many countries apply incentives in several other sectors as well. Papadopoulos and Kaerteris (2009) explained and discussed how Greece applied incentives for use of photo voltaic as an alternative energy source in renewable energy area. With the use investment subsidies and tax rebates, it is seen that use of photo voltaic expanded. Morisset and Pirnia (2002) discussed tax incentives and job creation. They used the employment in the tourism sector as dependent variable and average municipal salary, population of women in the municipal labour force as control variables. They found out that there is a positive correlation between job creation and increase in the fiscal policies namely incentives. Another sector that is incentives are applied is research and development areas, shortly R&D. Eisner and Sullivan made research about the R&D and tax incentives. They used R&D financed by the business enterprise sector as dependent variable and tax reductions as independent variable and they found a positive relation. This means that while tax reductions increase, businesses tend to more invest in R&D activities. In another paper, related R&D subsidies by Cerulli (2010), the effectiveness of the R&D subsidies is discussed. The researcher made an analysis of the evaluation literature. Generally focussed on the modelling and measuring the effect of public subsidies.

3.2 Investment Incentives in TRNC

TRNC economy is having the bottleneck of being and island economy and an internationally unrecognised state. Both constraints limit the attraction of FDI into TRNC. Having limited domestic capital stock and saving enforces the governments to create some additional measures to attract investments both from local investors as well as foreign investors from abroad. There are various incentive measures used in TRNC varying from support to exports of domestic products or to use of renewable energy, but the broadest coverage belongs to incentives given for new investments under the Investment Incentive Law 47/2000. Recently there are some other legislations using incentives for research and development investments through the technology areas established under the Law of Technology Development Areas or like the Higher Education Institutions Financial Regulations Law specifically designed for providing fiscal incentives newly established universities in TRNC. Both laws are covering only investment in those specific areas and while the Law of Technology Development Areas implemented by the Ministry of Economy, Higher Education Institutions Financial Regulations Law is implemented by the Ministry of Finance.

As it is mentioned before, with the 47/2000 Investment Incentive Law, various privileges are offered for the companies. Investment exemptions, credit subsidies, tax exemptions, tax holidays, construction licence fee and tariff exemptions and lease of land are the privileges that are provided to the investors. According to the Law, the certificate for the incentives is given by the State Planning Organisation under the Prime Ministry. Instruments used under this law fall under the jurisdiction of different ministries therefore each ministry rules the part of the instruments falling under its autonomy.

Although no prioritisation was made in the law specific for a sector or a geographic area but depending on the economic development of regions and sectoral driving forces within the economy Council of Ministers takes decisions for investment priority sectors or regions within the TRNC. For example, Western part of the Turkish Republic of Northern Cyprus, namely Gemikonağı and Bafra region on eastern coast are selected as priority areas in the investment scheme. According to Council of Minister decree any investment made in those areas access to 200% of investment tax exemption where all other places in the Turkish Republic of Northern Cyprus have only 100% (Eminer & Süreç, 2020).

Another temporary selected investment decision of Council of Minsters was published in the official gazette on 15th April 2005, taking the decision to cover the investments in the area of health, higher education and tourism granting a grace period in the first three years of selected investment area where all the other sectors have only two years of grace period. In another issue (Issue 455) of Official Gazette it is seen that the Cabinet has the right of extending the Certificate of Incentives in certain cases. If the incentive is going to be given in terms of tax reduction, The Ministry of Finance is responsible from arranging the incentive. Together with the certificate of incentive, investors can get subsidized loans from the Development Bank. This type of loans is subject to lower interest rate or extended payback period.

Under the 47/2000 Investment Incentives Law, State Planning Organisation is the monitoring body of the investment projects. After the approval of the project, the applicant company receives an incentive certificate that makes them to benefit from tax discounts that are specified in the Law and has the right to apply for the Development Bank's loans with subsidized loans and extended payback periods. The duration of the investment incentive

certificates is determined according to the investment period of the proposed project. In necessary situations, a maximum of two extensions can be made. The duration of industrial Investments is generally 2-3 years and up to 5 years for tourism investment projects.

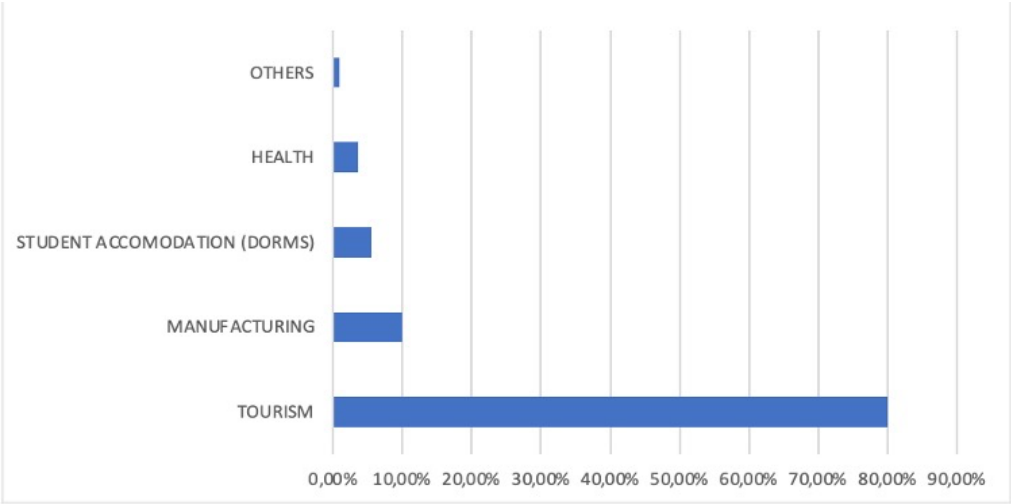

Figure 8: Percentage of Investment Incentives Values

State Planning Organisation has given 647 certificates of incentive for various investments between the years of 2002-2020 with a total value of around $5,7 billion. According to the number of certificates granted majority of certification is granted to manufacturing sector. However, in terms of the value of the investments, the tourism sector is the leading sector followed by manufacturing sector. In the above figure, it can be seen that tourism sector has the vast majority of 80% of the investment sector in terms of the value. This means that the investments in the tourism sector are high valued fixed investments of hotels mainly. Most of the touristic investments are large hotel investments of more than 1000 bed capacity in order to access casino licence. Manufacturing industry projects which constitute only 10% of the total value of investments are mainly capacity enlargement investments of existing companies

therefore the total value of more manufacturing projects is less than tourism investments. There are some new investments under the manufacturing category but not at very large scale. Since the domestic economy is quite small sizes of the manufacturing companies are small as well. Almost all the companies performing in the manufacturing industry area are small and medium size companies making production for the domestic market. Therefore, the volume of the investment of these companies are usually at smaller scale. Most of these SME size manufacturing companies prefer to have access to grant support schemes provided either by KOBIGEM (institution supporting SMEs) or the schemes provided by European Union.

Beside the tourism and manufacturing investments there are some investments in the area of health and higher education whose also benefit from the incentives law. In the health area construction and equipment investments of many new private hospitals are among those who benefited from the incentives. Other type of investments which were included into the incentive scheme was the construction of new dormitories in the areas of universities at TRNC. Along the years of mid 2000s due to the sudden large inflow of foreign student into the country a shortage of housing raised. In order to overcome this shortage Council of Ministers included the support of dormitory construction into the scheme. However, after a short period of time incentives created a great attraction which ended up with an excess capacity in the so-called sector. Having seen this over investment Council of Minister took another decision taking dormitory investment out of the scheme again.

3.3 Theoretical Background of Investment and Employment Relation

Investment which can be explained as fixed capital formation is one of the important elements of Solow's growth model. Capital accumulation together with the growth in labour due to population growth, enables economic growth. Solow also include total factor productivity into long run economic growth as a growth factor other than capital growth and labour growth which can explain the contribution of technology and productivity Dornbusch (2001). Following production function shows the two ingredients of output Y as Capital (K) and Labour (L).

$$Y = f(K,L) \qquad (1)$$

Output level Y is usually measured with GDP level in an economy. So, the growth of output represents economic growth of an economy. On the other hand, capital is usually represented with the fixed capital stock in an economy. Growth of the fixed capital stock is the level of investment in that economy. Finally, the labour input represented by the hours of work spent by the labour force of that economy for the production of output Blanchards (2002).

Investment is an economic activity which contributes to capital stock. According to Neo Classical model firms plan their investment by taking the previous period capital accumulation and a planned capital stock level which they try to fill the gap between previous period and the expected period capital stock which can be called the net investment. In order to derive the net investment, we can use the following equation.

$$K = K_{-1} + \lambda(K^{*} - K_{-1}) \qquad (2)$$

In the above equation K_{-1} refers to previous period capital stock and K* shows desired capital stock level. A coefficient of the difference between desired capital stock (K^{*})

and the previous period capital stock (K_{-1}) is added on the level of previous period capital stock to get the level of current period capital stock (K). In order to bring the capital stock from the previous period of K_{-1} to the current period level of K, companies must an investment (contribute to their capital stock) which can be referred as net investment. So, the derivation of the net investment as a function of the difference between the desired capital stock and the previous period capital stock can be done by using the above equation (2). The following function shows the level of net investment as the difference between desired capital stock and the stock of capital in the previous period.

$$I = \lambda(K^{*} - K_{-1}) \qquad (3)$$

In some economies companies are reluctant to make this investment in the so-called market conditions or what we can call in case of market failure. Governments intervene to the markets in case of market failure and apply the relevant policies to activate the market to operate. So, investment incentives can be considered as a policy tool to overrunning the market failure. In case of TRNC international non recognition, which brings constraints to access to international markets and the disputed property regime distort the markets. Governments in order to crowd out this handicap must provide certain preferential advantages to the firms in order to attract them to do the required investment with the help of these incentives.

It is expected as the investment is conducted, and the economic growth occurs there will be a demand for labour as a result of newly established productive capacities in the economy. However, the degree of need for labour as a result of investments depends on the nature of the sector invested. Some sectors are more labour intensive require higher degree of labour, but some are more capital-intensive which

requirement of labour is limited. TRNC economy as a small island economy tries to overcome the constraint of small market size by specialising on services and exporting those services abroad. Tourism is the major service area creating employment and foreign currency inflow due to the tourist arrivals. The other service export area is the higher education, namely the universities in TRNC. Majority of the students arriving from abroad and staying around 9 months per year in TRNC created a new source of foreign currency inflow as well as an additional demand for the economy. Universities can also be considered as labour intensive area due to the nature of the service provided. However, the degree of investments is not as large as tourism industry therefore the investment levels as well as the share from the incentives are not as large as the tourism industry.

Chapter 4

DATA AND METHODOLOGY

4.1 Literature of Methodology

Any kind of incentives provided by the governments has a fiscal burden on the budget. It can either be a directly spending or a in form of a sacrifice from the future budget revenues through the tax breaks. However, governments while implementing this type of policies expect a greater return by the outcomes of the so-called investments. First and the initial impact of the investments will be on the economic growth through the economic activity created directly or indirectly. The other most important expected benefit is the increase in employment. Since unemployment is not only an economic problem but a social problem as well, all the governments are sensitive on solving this great problem.

There is a great discussion whether the investment incentives affect employment or not. It's not only a political question to get the answer to this question but considering the magnitude of the funds allocated or sacrificed from the future revenues is also an economic matter for the governments. There are some studies in the literature dealing with the interrelationship between the incentives and their impacts on employment. Considering the findings of the research there are both positive and negative results between the incentives and employment.

Bondonio and Greenbaum in their study of "Do Business Investment Incentive Promote in Declining Areas" used econometric modelling to evaluate the impact of European Union's business investment incentives on regional economy of Italy. By looking at various industries' employment creating capacity they tried to measure the impact of incentives on the employment. The results indicate that business subsidies that are offered in Italy between the years 1995 and 1998 created new 23,951 jobs. Yanıkkaya and Kocaboğa (2017) studied the effectiveness of investment incentives in the Turkish manufacturing industry in their studies. In their studies they used two variables to measure the impact of investment incentives. The first one was the growth rate of labour productivity and the other one was total factor productivity. They covered the period between the years 1981 and 2009 throughout Turkey. Investment incentives are supposed to attract new investments to increase capital accumulation and then employment however, they found out that the overall effect of incentives leads to negative growth on capital accumulation.

Hungerberd and Gravelle (2010) in another study, tried to measure impact of private investments and Employment Tax Incentives ton economic growth. They found that the increasing amount of capital tends to increase the demand for skilled labour where the demand for unskilled labour decreases. So, they could not find net effect on employment. The other focus point was the employment subsidies and the employment. Employment subsidies are supposed to increase employment directly by decreasing the company's wage bill that includes, wages of the employees, social securities and pensions of the employees. Same to the previous one they could not find evidence that subsidies have a positive effect on employment.

4.2 Model Settings and Hypothesis

Major objective of this study is to find out whether the investments using incentives provided under the TRNC Investment Incentive Law contribute to the employment in TRNC. In order to find out this relationship linear regression method was used with the conjuncture of preventing biasedness and auto-correlation errors. Employment figures are used as independent variable. However various forms of employment are tested throughout the study in order to find out the impact of incentives on various forms of employment such as employment of TRNC citizens, employment of foreigners, employment in industry, employment in services and employment in tourism. Three sets of independent variables are used, mainly investment incentives which are sub divided as total incentives, industry incentives, services incentives and finally incentives used for tourism. Since investment incentives started to be given from 2002, only 19 years of data were available. In order to test the impact of incentives on employment a group of control variables used as well. These are real wages, rear exchange rate, number of beds for tourism industry. Real GDP was used as well but it was not found statistically significant. Main hypothesis of the study is whether investment incentives are affecting employment in TRNC. In order to test this main hypothesis five sub hypothesis created according to the nature of employment as below:

Hyphothesis 1:

Investment incentives affect employment of TRNC citizens.

Since employment of non-citizens are increasing in the latest years with this hypothesis domestic employment impact of investment incentives tried to be tested. Different

incentives in the area of industry, services and tourism are regressed on the employment of TRNC citizens.

Hypothesis 2:

Investment incentives affect employment of non-citizens in TRNC.

As a complementing hypothesis of Hypothesis 1, this hypothesis created to test whether the same investment incentives (industry, services and tourism) are affecting employment of non-citizens in TRNC.

Hypothesis 3:

Industrial investment incentives affect employment in industry sector at TRNC.

After testing the impact of investment incentives on the employment according to origin of citizenship, in this hypothesis sectoral employment impacts of incentives tested. In this third hypothesis it was tested whether incentives provided to investments in industry area are affecting employment in industry sector.

Hyphotesis 4:

Services investment incentives affect employment in services sector at Turkish Republic of Northern Cyprus.

This is another sectoral employment hypothesis. With this hypothesis, services sector investments effect on the employment in services sector is tested.

Hyphothesis 5:

Tourism investment incentives affect tourism sector employment at TRNC

In this last hypothesis, tourism sector employment as one of the sub sectors of services is tested. Since the investment incentives given to tourism sector is holding the lion share of whole incentives, it's worth to test the impact of this sectoral investment incentives on sectoral employment.

In order to test the above hypothesis which are categorised into two main sections as employment based on citizenship and employment based on sectoral division. Control variables include all other relevant variables as explained in the next section.

$Empcitizen_i = \beta_0 (incentives)_i + \beta_1 (Control\ variables)_i$

$Empsectoral_i = \beta_0 (incentives)_i + \beta_1 (control\ variables)_i$

4.3 Data

Since the research is about TRNC economy most of the data used in the study are obtained from various local sources in TRNC. Most of the data used are officially published data by the official institutions in TRNC such as SPO and Statistics Institution of TRNC. Some of the data is also obtained from official institutions in TRNC but they were not published and not shared publicly but provided due to written request.

In order to test the five hypotheses above, those quadratic equations were used, and logarithms of each variable is implemented in the regressions.

EmpTRNC = f(incenttot, wage, rer)

EmpTRNC = f(incentind, wage, rer)

EmpTRNC = f(incentserv, wage, rer)

EmpTRNC = f(incenttour, wage, rer)

EmpOther = f(incentind, wage, rer)

EmpOther = f(incentserv, wage, rer)

EmpOther = f(incenttour, wage, rer)

Empindustry = f(incentind, wage, rer)

Empservices = f(incentind, wage, rer)

Emptourism = f(incentind, wage, rer)

Table 1: List of Variables Used in the Model

Type	Variable	Definition
Dependent Variables	EmpTRNC	Employed TRNC citizens
	Empother	Employed non-citizens at TRNC
	EmpInd	Employment in Industry sector
	EmpServ	Employment in Services sector
	EmpTour	Employment in Tourism sector
Independent Variables	IncentTot	Total of Investment Incentives
	Incentind	Investment incentives for industry sector
	Incentserv	Investment incentives for Services sector
	Incenttour	Investment incentives for Tourism sector
	Wages	Real wages
	RER	Real Exchange Rate

Official statistics started to be gathered in 1977 in TRNC (used to be Cyprus Turkish Federated State). So many variables' series are available since 1977, like sectoral employment figures, number of hotel beds, wages, and Real Exchange Rates. However, some of the data specially the ones about the investment incentives date back to the year when the law implemented, and incentives started to be given in 2002.

Investment incentive figures provided by SPO is given as the total value and total number of incentives certificated in a year from 2002 till 2020. However, no information is provided about how many of the investments were completed or about the final value of the investment. Similarly, employment according to citizenship origin is provided by Social Security Institution with a written request. They also provided data between the tears from 2002 to 2020.

All the data collected were in current value therefore some of them like wages, the exchange rate and investment incentive values changed to real US dollar figures by using the US and Turkey CPI and US dollar rates for Turkish Lira. For example, representing wage variable, minimum wage data in TRNC is used and Turkish Lira current wages converted into real wages in US dollar. Similarly Turkish Lira exchange rates adjusted to real rates by using the US Dollar – Turkish Lira exchange rate from 1977 to 2018 multiplied by the division of US CPI and Turkey's CPI.

$$RER = Exchange\ Rate * (US\ CPI / Turkey\ CPI)$$

After deriving the real exchange rate of US dollar, data given in current Dollar value such as investment incentive values are also adjusted to real US dollar value:

- Total Services Investment Values: Total Services Investment Values / RER
- Wages: Wages / RER
- GDP: GDP / RER.

In many studies the growth in supply of tourism services is shown by the number of hotel bed in the specific region or country (Dogru, Mingley, Kim 2020). Therefore, Bed used to show the size of hotel industry in TRNC. Minimum wages are used in many studies as one of the control variables which is affecting the employment. In case of TRNC wages not only influencing employment of citizens but as a

substitutable labour, affects the employment of non-citizens as well. Real exchange rate is also another control variable used in many other studies which affects the price of the products and the real wage rates (Wong and Tang, 2010).

Employment figures of TRNC are used to control the impact of investment incentives on employment. Various categories of employment are used; on citizen based as TRNC and Others. Since TRNC Social Security Institution started to collect data with this diversification in 2002 available dataset starts in that year up to 2020. Second group of employment data covers sectoral employment as industry, services and as a sub sector of services tourism employment due to its greater role in economy of TRNC.

Investment incentives as the basic variable of the study are also categorised according to the investment projects' sectors as industry, services and tourism. Data provided by SPO is given current US dollar value and they are transformed into real US dollar values by using the above formula. As it was mentioned before these incentive values indicate the estimated project value of investment before implementation of the investment. Therefore, real magnitude of each investment is not exactly known and furthermore it is not neither known whether each certified investment project is completed. SPO is not registering the closure of certified investment projects. Value of investment incentives showed a great degree of volatility which created some problems in regressions.

Chapter 5

EMPIRICAL RESULTS

5.1 Descriptive Statistics Results

EViews software used for the analysis of the study and the method of least squares regression method employed. Most of the data set covering the period 1977-2020 but the employment data and investment incentives is available for the years 2002 to 2020. As mentioned earlier, two different linear equations used together with twelve different variables in total. In each equation employment variables are dependent variables. In first group equation employment according to citizenship is used. In the second equations sectoral employment variables used as dependent variable. In all equations sectoral investment incentives, real wages and real exchange rate is used as independent variable. Descriptive statistics of the selected variables are calculated by using Eviews.

Table 2: Descriptive Statistics of Variables Used in the Model

	Empkktc	Empother	Empind	Empserv	Emptour	Inctnind	Inctserv	Incttour	Bed	Wage	RER
Mean	42,297	28,754	15,970	47,732	10,724	36,158,505	2.97E+08	2.63E+08	17,400	667.3	1.94
Median	40,500	31,616	15,944	45,703	10,358	20,761,419	2.86E+08	2.54E+08	16,769	797.3	1.85
Max	63,975	50,017	23,364	75,851	19,110	1.99E+08	6.49E+08	5.88E+08	25,684	960.4	2.73
Min.	30,034	6,328	8,206	24,006	6,056	6,615,952	1.14E+08	1.13E+08	10,916	140.9	1.46
Std.Dev.	11,656	13,293	4,229	19,976	4,571	46,596,216	1.57E+08	1.36E+08	6,505		

Mean values of each variable in the above table are very close to median value and not close to either minimum or maximum values. This may indicate that all variables are

having a rising trend in time and therefore mean and median values are very close to each other.

5.2 Regression Results

Before conducting the regression for the selected equations some other pre tests are conducted to find out the reliability of the variables employed in the model. One of these pre-test analysis conducted by using EViews program is the correlation analysis of variables used in the regression. If the chosen variables are highly correlated to each other in a regression model, then it can be said that variables may suffer from multi collinearity problem. This may cause variables to falsely predict the changes in dependent variables. When the data set has the multi collinearity problem, the regression coefficients are not going to be calculated accurately. In this situation some other approaches are used to detect the problem. Most popular method used is Pearson's correlation matrix.

For the variables used in the first group of equations where the dependent variables are employment based on citizenship and the independent variables are sectoral investment incentives and other control variables as wage and real exchange rate are used in corelation matrix. All cells are having a value smaller than 0.80 where it means no important collinearity among variables.

Table 3. Correlation Matrix for First Equation Variable Set

	EMPKKTC	**INCENTIND**	**INCENTSERV**	**WAGE**	**RER**
EMPKKTC	1.000000				
INCENTIND	-0.556671	1.000000			
INCENTSERV	0.014944	0.482205	1.000000		
WAGE	0.805695	-0.702983	-0.080000	1.000000	
RER	0.286244	0.363602	0.326583	-0.246093	1.000000

For the variables used in the second group of equations where the dependent variables are employment was sectoral and the independent variables are sectoral investment incentives again and same control variables as wage and real exchange rate are used in corelation matrix. All cells are having a value smaller than 0.80 where it means no important collinearity among variables.

Table 4: Correlation Matrix for Second Equation Variable Set

	EMPIND	EMPTOUR	INCENTIND	INCENTTOUR	WAGE	RER
EMPIND	1.000000					
EMPTOUR	0.494990	1.000000				
INCENTIND	-0.495331	-0.564339	1.000000			
INCENTTOUR	-0.151221	0.018708	0.527384	1.000000		
WAGE	0.520469	0.802364	-0.702983	-0.108322	1.000000	
RER	-0.135376	0.234458	0.363602	0.380972	-0.246093	1.000000

Other type of pre-test applied before running the regression is the unit root test. This test helps to find out whether the data is stationary or non-stationary. Augmented Dickey-Fuller and Philips-Perron are used to evaluate the unit root tests of the data. Lag chosen for the test is automatically chosen according to Schwarz Info Criterion for ADF test and Newey-West Bandwith for PP test. According to the following results below it is shown that all data is stationary at their first difference form with intercept.

Table 5. Unit Root Test Results

	Empkktc	Empother	Incentind	Incentser	Incentour	Wage	Rer
ADF	-3.155	-3.060	-11.896	-4.159	-3.145	-5.026	-5.604
PP	-3.155	-2.959	-21.363	-9.074	-3.980	-5.215	-5.720

In order to test the hypothesis created above a least square regression was run by using EViews software. As mentioned earlier two main equation group was created as employment at TRNC is the dependent variable in both. However, in first group equation employment of citizens (empkktc) and non-citizens (empother) are the two subcategories, where in the second group of equations employment according to sectors as employment in employment in industry (empind), employment in services (empserv) and employment in tourism (emptour) are the subcategories of dependent variables. In both equation groups independent variables are same as; incentives given industry investments (incentind), incentives given services investments (incentserv), incentives given tourism investments (incenttour), real wages (wage) and real exchange rate (rer).

First group of equations which aims to measure the impact of investment incentives on employment based on citizenship and they are formulised as follow:

EmpTRNC = f(incentind, wage, rer)

EmpTRNC = f(incentserv, wage, rer)

EmpTRNC = f(incenttour, wage, rer)

EmpOther = f(incentind, wage, rer)

EmpOther = f(incentserv, wage, rer)

EmpOther = f(incenttour, wage, rer).

Logarithmic forms of equations are used in the regressions to measure the impact of investment incentives on employment in TRNC:

$logempkktc_{it} = \beta_0 (logincentind)_{it} + \beta_1 (logwage)_{it} + \beta_2 (logRER)_{it}$

$logempkktc_{it} = \beta_0 (logincentserv)_{it} + \beta_1 (logwage)_{it} + \beta_2 (logRER)_{it}$

$logempkktc_{it} = \beta_0 (logincentour)_{it} + \beta_1 (logwage)_{it} + \beta_2 (logRER)_{it}$

$$logempother_{it} = \beta_0 (logincentind)_{it} + \beta_1 (logwage)_{it} + \beta_2 (logRER)_{it}$$

$$logempother_{it} = \beta_0 (logincentserv)_{it} + \beta_1 (logwage)_{it} + \beta_2 (logRER)_{it}$$

$$logempother_{it} = \beta_0 (logincentour)_{it} + \beta_1 (logwage)_{it} + \beta_2 (logRER)_{it.}$$

Results of regressions are given at the below table. Values at each row shows the coefficient for each independent variable and values in parenthesis gives the t-value for 1% confidence interval.

Table 6: Coefficients of Citizen-Based Employment Equations

Independent Variables	**Empkktc**	**Empkktc**	**Empkktc**	**Empother**	**Empother**	**Empother**
Incentind	0.246 (13.653)			0.255 (7.839)		
Incentserv		0.380 (10.794)			0.145 (3.484)	
Incenttour			0.386 (11.420)			0.141 (3.241)
Wage	0.881 (18.621)	0.447 (4.871)	0.441 (5.063)	0.829 (9.095)	1.119 (10.295)	1.133 (10.076)
RER	1.202 (6.410)	0.590 (2.100)*	0.538 (2.001)*	1.152 (5.601)	0.215 (0.648)**	0.226 (0.658)
Adj R^2	0.541	0.214	0.291	0.524	0.881	0.880
Number of Observation	16	16	16	15	16	16

According to the results in above table all the coefficients are significant and positive at 1% confidence level, except the real exchange rate for empkktc with incentserv and empother with incentserv. Adjusted R squares for each equation is quite high indicating the power of independent variables to estimate the dependent variable. Results also show that 1% increase in the industrial investment incentives, increases the employment of TRNC citizens by 0.25 % ceteris paribus, where increasing

incentives for services by 1% increases employment of TRNC citizens by 0.38% and increasing incentives of tourism by 1% increases employment of TRNC citizens by 0.386. On the other hand, according to the results as shown in the above table, 1% increase in industrial incentives, increases the non-citizens' employment by 0.25% ceteris paribus. If incentives in services sector is increased 1% then, 0.14% more non-citizens are employed and if, incentives for tourism sector are increased 1% then, employment of non TRNC citizens increases by 0.14% ceteris paribus.

Second group of equations which aims to measure the impact of investment incentives on sectoral employment, and they are formulised as follow:

Empindustry = f(incentind, wage, rer)

Empservices = f(incentind, wage, rer)

Emptourism = f(incentind, wage, rer).

Logarithmic forms of equations are used in the regressions to measure the impact of investment incentives on sectoral employment in TRNC. One period lagged variables for sectoral investment incentives are also used in the regressions.

$$logempind_{it} = \beta_0 (logincentind)_{it} + \beta_1 (logwage)_{it} + \beta_2 (logRER)_{it}$$

$$logempserv_{it} = \beta_0 (logincentserv)_{it} + \beta_1 (logwage)_{it} + \beta_2 (logRER)_{it}$$

$$logemptour_{it} = \beta_0 (logincenttour)_{it} + \beta_1 (logwage)_{it} + \beta_2 (logRER)_{it.}$$

Results of regressions are given at the below table. Values at each row shows the coefficient for each independent variable and values in parenthesis gives the t-value for 1% confidence interval.

Table 7: Coefficients of Citizen-Based Employment Equations

Independent Variables	Empind	empserv	Emptour	Empind	empserv	emptour
Incentind	0.245 (8.673)					
Incentserv		0.302 (11.437)				
Incenttour			0.238 (11.160)			
Incentind$_{-1}$				0.236 (6.460)		
Incentserv$_{-1}$					0.281 (9.169)	
Incenttour$_{-1}$						0.198 (6.318)
Wage	0.792 (12.017)	0.688 (10.022)	0.647 (11.762)	0.800 (8.348)	0.764 (9.014)	0.771 (8.894)
RER	0.631 (2.148)	0.680 (3.230)	0.770 (4.537)	0.732 (1.925)*	0.536 (2.365)	0.677 (2.923)
Adjusted R^2	0.410	0.834	0.890	0.071	0.786	0.793
Number of Observations	17	16	16	16	15	15

All coefficients at above table are statistically significant and positive at 1% level of confidence except the real exchange rate when used with the lagged industrial incentives for industrial employment. Adjusted R square levels are quite high indicating the power of regressors in all equations.

According to the results 1 unit increase in the industrial investment incentives, increases the industrial employment by 0.24% ceteris paribus. 1 unit increase in the

services investment incentives, increases the services investment by 0.3% and 1 unit increase in incentives in tourism sector increases the employment in the tourism sector by 0.24% keeping else constant. Increase in wages and real exchange rate increase the tourism sector employment by 0.32% and 0.48% respectively.

Chapter 6

CONCLUSION

As an island economy TRNC depends on services sector, mainly tourism and higher education. Majority of the economic activities are in services sector therefore majority of employment is also in services sector. As it is known, TRNC is facing with political and economic isolations due to the Cyprus conflict. International non recognition and a disputed property regime creates market failure for investments in the country. Because of this handicap governments of TRNC are trying to create some advantages for the investors in order to promote investments either by domestic or foreign companies. Law of Investment Incentives (47/2000) managed by the State Planning Organisation is the major incentive tool as a legislation. Although there is no sectoral priority in the law however from time-to-time government set some priority investment areas. According to the Law of Investment Incentives, criteria or procedure for selecting priority areas are not very clear. More transparent and effective procedures are required. Revision of the performance of the Law at every 5-year period intervals can increase the effectiveness. Close monitoring of the incentives provided to the investors is sufficient, whether the investing firm are aligning with the content of the certificate they are provided. SPO is required to make the closure of investments and must provide information about the value of investment implemented. Exemptions and tax breaks provided by the law are extremely high and have no time limit. Considering the EU incentive schemes and other similar size economies, a maximum of ten year or 50-75% tax holiday can be provided with law amendment.

Having no study about the analysis of investment incentives at TRNC is one of the main motivations of this study. Both providing incentives tax breaks as well as subsidized credits is causing a loss of revenue for the governments. Therefore, the realisation of any supported investment is very important for a country like TRNC since its resources and revenue sources are quite limited. Within this study employment effects of incentives analysed but not any financial impact analysis of incentives conducted. While making the impact analysis of investment incentives on employment two types of hypotheses created one impact on employment as citizenship based. Since after the year of 2003 inflow of foreign labour force increased to the island this determined the one objective of the study to analyse the impact of incentives on the employment of TRNC citizen's and non-citizen's employment. The second channel of analysis focused on sectoral investment and measured the impact of sectoral investment incentives on the relevant sectoral employment.

Data used in the analysis collected from local sources like SPO and Social Security Institutions. Data used are sectoral employment figures (industry, services and tourism), employment figures of TRNC citizens and non-citizens, sectoral values of investment incentives, real wage rate and real exchange rate. Current values of the variables converted into real US dollar values. Data for investment incentives and employment based on citizenship covers the period 2002-2020 whereas the other data dates back to 1977 till 2020.

Simple linear regression method is used for logarithmic forms of the variables. According to the regression results incentives for services and tourism is found more effective on employment. This may arise due to the labour-intensive character of the sector.

The second group of equations and regressions were using the sectoral employment as dependent variable and trying to analyse the sectoral investment impact on sectoral employment. In this analysis again the tourism investments impact found greater than the other sectoral incentives. This may also arise due to the nature of the sector which is more labour intensive. On the other hand, industry sector investment incentives also created a considerable employment in industry sector. Another important result in this analysis is the relation between the wage rates and employment in sectors. According to regression results as the real wage rate rises employment in tourism is rising as well. This shows the substitutability of domestic labour with foreign labour in the tourism sector. As mentioned before irregular working hours as well as the lack of certain skills or the wage difference with other sector play a role in these results.

One of the shortcomings of the study is the few numbers of observations due to the limited availability of data. Incentives started to be implemented in 2002 and the Social Security Institution started to gather statistics about the citizenship status in the same year as well. This caused a very short period availability of the data for the two main indicators of the model used. Beyond this constraint, SPO is not giving any number of investments, nor the value of the investments as completed or not completed. Since the value of investment incentives is used as independent variable in the study, it is not clear whether the whole incentives turned into investment or not.

To conclude, the investment incentives Law 47/2000 need to be redesigned according to the changing global and local conditions. Other country examples can act as a model. More detailed statistics both about employment and the incentives can enable the further research about the effectiveness of the incentive policy used by governments.

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APPENDIX

Summary of Investment Incentives

	SAĞLIK		EĞİTİM (Yurt)		SANAYİ		TURİZM		ULAŞTIRMA		BASIN YAYIN		HABERLEŞME		AVM	
	Belge Sayısı	Yatırım Miktarı ($)	Belge Sayısı	Yatırım Miktarı ($)	Belge Sayısı	Yatırım Miktarı ($)	Belge Sayısı	Yatırım Miktarı ($)	Belge Sayısı	Yatırım Miktarı ($)	Belge Sayısı	Yatırım Miktarı ($)	Belge Sayısı	Yatırım Miktarı ($)	Belge Sayısı	Yatırım Miktarı ($)
2002	4	5.369.960,65	8	31.029.824,36	40	164.430.638,71	38	485.078.916,14	4	13.559.379,77	1	559.880,38	2	3.103.175,29		
2003	1	606.465,44			27	25.269.749,31	9	95.368.616,76								
2004	1	926.339,60			26	51.900.251,81	13	113.311.788,75								
2005			11	40.197.162,88	27	34.133.913,40	19	339.050.246,97								
2006	1	1.152.953,81	20	58.454.686,67	22	36.605.560,11	13	162.680.844,93								
2007	3	17.374.154,60	3	2.683.391,19	20	47.095.012,33	4	155.124.368,27			1	1.645.782,78	1	6.077.672,19		
2008	3	118.195.303,04	1	1.347.865,88	13	22.979.907,22	10	270.950.907,25					1	2.453.306,85		
2009	1	1.924.991,26			15	17.954.630,03	10	240.125.301,28								
2010	1	12.500.181,96			21	49.917.308,73	8	150.201.313,81					1	958.571,39		
2011					13	17.671.813,77	7	319.445.990,42							1	16.954.736,53
2012	1	3.813.227,64			12	12.689.297,69	4	218.056.656,24								
2013	4	11.689.970,61			15	19.581.207,43	2	3.608.697,34								
2014			5	11.102.063,36	9	7.182.735,72	7	324.430.635,68								
2015	2	26.270.717,38	22	66.938.537,22	7	7.457.017,70	10	421.585.766,90							1	11.406.889,76
2016	1	3.311.286,88	18	31.851.417,67	11	15.050.405,94	7	301.153.040,55								
2017			16	53.153.526,98	8	7.817.910,33	10	280.346.513,02								
2018	1	447.428,62	7	18.869.905,43	6	8.486.800,75	10	296.992.311,64								
2019					7	7.683.324,69	6	267.761.211,19								
2020	2	6.491.504,53			5	13.417.986,78	6	142.701.841,39								