ABSTRACT

Title of Thesis: THE ECONOMIC IMPACT OF SYRIAN REFUGEES ON TURKEY

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Between 2010 and 2016, the number of Syrian refugees and migrants into Turkey was massive and daunting. However, despite these sizable and seemingly destabilising inflows, the refugees managed to interact freely within the Turkish markets. To understand the impact of these refugees on the Turkish economy, it is essential to first look to the literature. This produced mixed results. Sources suggest that, broadly, the Syrian influx had little to no effect on the employment rates and wages within Turkey. Other researchers suggest that there was a significant effect on the informal sectors, with Turkish locals ultimately becoming displaced. The effects were also said to extend to the inflation rate. This study takes a quantitative look into the effects of this particular migration on Turkey's unemployment rate, inflation rate and GDP growth rate. Moreover, the study also analyses the trends in Turkey's GDP, considering both with and without the migrant inflows. A comparative research design will be embraced in the research phase of this proposal to better analyse the effects of migration.

THE ECONOMIC IMPACT OF SYRIAN REFUGEES ON TURKEY

by

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DEDICATION

To my father and my mother who encouraged me to reach my goal.
To my sisters and brothers, I appreciate their faith in my abilities.

TABLE OF CONTENTS

LIST OF FIGURES v
LIST OF TABLES vi
CHAPTER 1: INTRODUCTION AND BACKGROUND 1
THE TURKISH ECONOMY 2
PURPOSE AND SIGNIFICANCE OF THE STUDY 4
RESEARCH QUESTIONS 5
CHAPTER 2: LITERATURE REVIEW 6
CAUSES OF IMMIGRATION 6
ECONOMIC CHALLENGES 9
EMPLOYMENT 11
INFLATION 15
GROSS DOMESTIC PRODUCT 18
CHAPTER 3: METHODOLOGY 21
THEORIES AND METHODOLOGIES 21
DATA COLLECTION, POPULATION AND SAMPLING 21
ANALYSIS PLAN AND STATISTICAL PROCEDURE 22
Validity and assumptions 23
LIMITATIONS 24
CHAPTER 4: Research Finding and Discussion 25
DESCRIPTIVE STATISTICS 25
REGRESSION ANALYSIS 30
CHAPTER 5: RESULTS 40
REFERENCES 45

LIST OF FIGURES

Figure 1: Effects of Syrian refugees in Turkish prices 17
Figure 2: Turkey's Real GDP Growth Rate between 2010 and 2012.....19
Figure 3: Time-series of Total Refugees 26
Figure 4: Time-series of Capital Investment 27
Figure 5: Time-series of Unemployment.....27
Figure 6: Time-series of the Consumer Price Index 28
Figure 7: Time-series of the GDP Growth Rate 28
Figure 8: Scatter diagram of Total Refugees and CPI 35
Figure 9: Scatter diagram of Total Refugees and Capital Investment.....35
Figure 10: Scatter Diagram of Total Refugees and GDP Growth 39

LIST OF TABLES

Table 1: Describe statistic for the recurring independents.....25
Table 2 : Pearson correlation matrix between retweeted variables.....30
Table 3: regression model of Unemployment on relative economic variables.....31
Table 4: backword selection for unemployment.....32
Table 5: regression model of CPI on economic variables 33
Table 6: backword selection for CPI 34
Table 7: regression model of GDP growth on relative economic variables 36
Table 8: backword selection for GDP growth 37

CHAPTER 1: INTRODUCTION AND BACKGROUND

Since July 2011, Syria has been the victim of damaging levels of civil unrest and conflict that have only proven to grow worse with time. As a result, the number of Syrian refugees that is, the population of people leaving Syria to avoid the country's internal conflict has continued to increase, unrelentingly, across the Eurasian region, exceeding as many as 600,000 back in January 2015. The Turkish government is one such entity to have been impacted by this recent diaspora. Over the past several years, the Turkish government has been unable to establish control over the quantity of refugees that enter the nation and settle in the urban centres, which, as many researchers acknowledge, has affected the economy of Turkey. From this, the Turkish government and economy has had to adopt the burden of assisting the refugees, who have agglomerated themselves into camps along the borderline. This, ultimately, became a budgetary concern for Turkey, and one that has extended itself into several other facets of Turkish macroeconomics.

The first economic issue concerns employment. This stems from Turkish law, which allowed the Syrian refugees to work during their temporary protection tenure a tenure that has lasted far longer than was originally anticipated. The second economic concern is with regards to the gross domestic product (GDP), which has shown clear indications of a negative influence, since the influx and interaction of refugees. A third concern of interest is with regards to Turkish inflation - a concern that stems from the observation of a disproportionate increase in the demand for Turkish goods and services. From the outset, these economic issues might suggest rather simple conclusions, as opposed to anything moot. However, researchers who have ventured on

to study the causes and effects of Syrian refugee inflows into Turkey (or elsewhere) have divergent and often conflicting views and conclusions with respect to the abovementioned economic concerns. This thesis works to clear through the noise and uncover the true, data driven impact of the refugees in the region (Akgündüz,2015).

THE TURKISH ECONOMY

Why the focus on Turkey and its economy? While the refugee crisis is a matter that concerns many countries across the world, the impact that the Syrian crisis has had on Turkey is seemingly immeasurable. This focus is due to the fact that Turkey bore and still bears the greatest influx of the Syrian refugee crisis. This is because Turkey geographically happened to be the safest and largest nearby territory (with sufficiently porous borders) to accommodate the Syrian people at the height of their internal conflict. This geographic comfortability, coupled within the fact that Syria has yet to become a state of safe return for its citizens (a more than six-year displacement for the refugees), has left many academics questioning about the economic impact to countries that have taken in the refugees. Will the impact be negative? Will it be positive? Or, will there be any impact at all? The short answer arising from both the literature review and the findings of this report is yes, more so negatively; and, the situation was bound to have some significance within Turkey because, despite being a relatively safer alternative country within the Middle East, Turkey was undergoing its own internal economic problems, primarily slow economic growth and increasing rates of unemployment. Given these circumstances, the addition of hundreds of thousands of refugees was far from desirable.

Despite the bleak picture of the Turkish economy portrayed above, there was, in actuality, a considerable level of economic activity progressing within the country.

However, when the Syrian refugees began streaming into the country, in and around 2012, there was a shock to economic activity in the region that took time to adjust across markets. Many of the shocks to the economic system of Turkey were sociologically qualitative (such as cultural sentiment), as opposed to macro economically measurable; but, there were still some signs that the economy was changing, and the only difference was the number of refugees entering the country. For instance, the per capita income of the country dropped, tremendously, as well as the overall standard of living (as perceived by the Turkish nationals). Before the influx, the Turkish economy had been growing at an average rate of 10% per annum; however, that level of growth began to reverse around the time of civil unrest in Syria. Demands for goods and services increased geometrically and disproportionately with the rising levels in immigration, which ultimately left Turkey feeling overwhelmed, economically. Phrased differently, Turkey began to experience strains of classical economic dilemma - the little and previously proportionate (to the prior trends in Turkish population growth) that the country produced and imported now had to be shared by the huge number of unanticipated foreign nationals.

While, generally and up to this point, there has been negative discussion about the economic outlook of Turkey following the influx of Syrian refugees, it is necessary to note that there were many notable benefits that have resulted from the presence of refugees in Turkey. Between 2012 and 2015, for instance, many new businesses came into existence, and most of them were concepts entirely born of the inventiveness of the refugees. Additionally, there was a significant number of refugees that had managed to salvage some of their resources, which allowed them to lessen the initial, per-capita

economic burden on Turkey. It is from such resourcefulness that many of the individuals decided to venture into certain businesses and trades.

Another positive, economic observation during this time concerns the extent to which the refugees contributed to the Turkish monetary economy. Statistics indicate that by early 2016, deposits into Turkish banks from Syrian nationals had exceeded 500 million US dollars. Again, through their resourcefulness, some of the refugees had found the means to wire part of their savings into the Turkish banking system. The impact of these cash inflows became very important for managing the resources to assist the refugees, and the situation ultimately became a contributor to economic progress of the country. In some instances, the Turkish government provides full support to refugees who are within their boundaries. However, in the case of Syrian refugees, a sizable section of the refuges led lives of near self-sufficiency, which, again, proved helpful in Turkey overcoming the shock.

PURPOSE AND SIGNIFICANCE OF THE STUDY

From the introductory discussions above, it is evident that the entry of refugees into Turkey from Syria has had an economic impact. It is also evident that there have been both positive and negative contributions of this crisis to the economy of Turkey. Ultimately, the main purpose of this paper is to treat and consider the forced immigration as a naturally occurring experiment in the evaluation of the effects of Syrian immigration on the Gross Domestic Product (GDP), inflation, and unemployment of Turkey. Moreover, while it is the case that Turkey absorbed the lion share of the refugee influx, Turkey was, by no means, the only country to receive said immigrants. From this, the significance of the study is to present the data-driven facts of the impact of large, unanticipated immigrant inflows on an economy, as a means of

informing other countries' policy analysts (of similar circumstance) of the predictable trends that may arise.

RESEARCH QUESTIONS

Harking back to the section regarding The Turkish Economy, some important questions arise from the background of this study, namely:

i. More broadly, do Syrian immigrants affect Turkey's economy?

ii. More specifically, what is the relationship between the relatively recent influx of Syrian immigrants into Turkey and Turkey's key macroeconomic indicators, such as unemployment, inflation (as measured by the consumer price index) and the growth rate of gross domestic product?

iii. If there are relationships between the influx of Syrian refugees and Turkey's economy, are they positive or negative relationships?

While implied throughout the better part of this chapter, these questions, when made more pronounced, help to provide a vivid focus for the economic exploration herein as well as give structure to the paper as a whole. Ultimately, with these questions in the foreground, the following literature review and statistical methodologies chapters will be seen as less prescribed and more

CHAPTER 2: LITERATURE REVIEW

CAUSES OF IMMIGRATION

Syria has been in a strong relationship with neighbouring countries since the era of the Ottoman Empire. Since then, the nation has been implementing several foreign policies that have made it a strong, geopolitical force in the region. This seat of influence has long provided Syria with roles in matters of conflict across the Middle East. Knowledge of this background gives explanation to why Turkey ultimately became engrossed in an immigration influx, following the Syrian attacks. Turkey had long taken an anti-Assad Regime stance, which added more of fuel to the flames of Syrian conflict. It was not long after the start of Syria's internal conflict that Turkey began receiving refugees from Syria, seeking protection. It was not a serious concern at first because the number of refugees was not so alarming. After all, the number of refugees who crossed from Syria to Turkey within the first few days of July back in the year 2011 was approximately 15,000. These early arrives were hosted in tent camps close to the Syria-Turkey border (Ahmet, 2015).

The Turkish legal framework is also another reason why the Syrian Refugees were able to enter into Turkey with a fair degree of ease. Back in 1994, Turkish legislators integrated Asylum regulations. The regulations were not keen to describe the rights of aliens in in the nation. Instead, the regulations simply defined entry, stay residence, and exit of aliens in Turkey. The regulations did not define rights to work in Turkey. These laws were revisited because cases concerning Iraqi refugees that entered Syria in very large numbers – this began a new precedent by which other countries in the Middle East region acknowledged or followed. Turkey, who agreed to the Geneva Convention, had laws in place that allowed all refugees, of European descents, to come

into the country, live and work, unless they broke the law. Turkey only allowed for entry and temporary refuge for people of other descents. In this, it is then required of such groups of people to eventually go back to their home countries (Ahmet, 2015).

However, there is a workaround. Refugees of Turkish descent are allotted special priority, as they can enter Turkey and establish permanent residence. The Kurdish people, for instance, have Turkish descent and make up a sizable portion of the Syrian population. Given this, the Syrian Kurds found it easy to live among the Kurdish communities of Turkey, and this also explains why there was such a great influx into the country. The Turkmen people of Syria also preferred to live amongst the Turkish population, which is predominantly made up of the Turkmen. Syria has several tribes that have the Turkish descent, and so they, too, qualified for asylum and the right to associate and work in Turkey. Although there have been some degrees of criticism towards the Turkish government for their geographical discrimination in foreign policy, overall, the country has maintained its legal framework well, which has results in the prolonged stay of many of the refugees (Ahmet, 2015).

In July 2011, only less than 20,000 refugees entered Turkey from Syria. The number has been growing drastically since, to where by 2014, Turkey was the second highest host country for Syrian refugees, having an excess of half a million refugees from Syria, alone. In 2015, Turkey became the biggest host of the Syrian refugees, with an excess of 600,000. At this point, the Syrian refugees in Turkey were not only settling at border point tent camps but also finding their way into the cities and interacting with the Turkish people and other populations within the country. In many cases, the refugees were working and living as free people. Even though they were still technically illegal, as per the legal framework of Turkey, they were under temporary protection,

and the Syrian national situation was not yet suitable for the Syrian nationals to return to. Turkey is the largest, non-water geographical barrier to the Syrian refugees that wish to leave for European countries for asylum. In some cases (from the perspective of a fraction of the refugees within Turkey), refugees have travelled through Turkey as a way to enter Europe. This overlooking of national border protection has led to great criticism of the Turkish government's ability to contain the situation and maintain the efficacy of their own immigration policies (Ahmet, 2015).

It can be said for most that people would prefer to remain in their country of origin than be a refugee. However, given that the situation in Syria was beyond control and the Turkish government made accommodations for the Syrian refugees to be treated more as guests than refugees, it is not a wonder that the refugee population in Turkey has expounded beyond comfort. Within Turkey, a criticism and upfront implication is that the Turkish government could have evicted the aliens without any legal process as guests, leaving there to be no chances for the refugees to seek proper asylum. However, the Turkish government took a step of implementing temporary protection to the Syrian refugees, which implies that the guests were more secure without the fear of the government enforcing eviction actions. As guests, the Syrian refugees were able to interact with other Turkish peoples and citizens, which set the stage for these refugees to find ways of earning a living. This strategy, on the part of the Turkish Government, has been thought of, generally, as the right decision because they were relieved of the burden of continuously funding refugee camps, as well as being relieved of the burden of offering asylum to all or most of the refugees. However, while there has been some degree of relief for the government and the foreign nationals, many of the Turkish Nationals have had to hastily conform to interacting with the Syrians, which has caused

a competition for the limited economic resources within Turkey, such as various perishable goods, job opportunities and health services (Akgündüz, Van Den Berg, & Hassink, 2015).

ECONOMIC CHALLENGES

Akgündüz, Van Den Berg and Hassink (2015) researched secondary sources that inform their own works concerning the economic effect of the Syrian refugees in Turkey. The study was aimed seat uncovering which refugees impact the economy negatively. In this, there was research bias. Much of the research was gathered from real cases of immigration, for instance, the return of the French Colonies from Africa after independence. The group that was found to affect economies the most proved to be refugees that came from less developed countries and moved to more developed countries. The effect, however, depends on where they eventually settled. If they settle in areas with well aligned economic prospects, they are most likely to cause a negative influence on the economy, with the specific parameters that are most affected being wages and labour supply of the host country's markets. The study also suggests that, when refugees who can communicate in the language of the hosts enter into areas of good economic market prospects, they are more likely to compete in the labour market; and, if they have sufficient education, they are able to be displacing some of the natives from their workplaces. By 2011 and 2012, the Turkish GDP had been growing steadily at 3%. However, by 2013, the growth had slumped to around 2%. Although these percentages may look insignificant, when translated into figures, they begin to show real economic overturn. By 2011, the Turkish population was hovering around 74 million. However, by 2015, the population had soared to over 77 million – a roughly

4% increase. The majority of the increase was due to the influx of refugees in the country.

Government statistics indicate that during this same period, Turkish government spending increased by 6.7 %, while private spending increased by 4.5%. While an increase in spending may at times be a product of an expanding economy, the fact that there is no equivalent increase in production should be a sign for concern. On the other hand, the same research suggests that the settlement of refugees in less developed parts of a host economy may spark economic activities in this disenfranchised area that would not have otherwise existed. As a result, there is both a positive outcome and a negative outcome from the same sources, which raises a flag for further investigation (Akgündüz, Van Den Berg, & Hassink, 2015).

Turkey is a more developed country when compared to Syria. Most of the Syrian natives are less educated. However, most of the Syrian refugees can communicate using Turkish languages. The first lot was hosted by refugees at borderlines, and they numbered no more than 20,000. After the refugees were received as guests, they were able to start settling into the urban areas in Turkey, where the economy had positive prospects regarding labour markets, GDP, and inflation stabilising. The expectation, as extrapolated from considering Akgündüz, Van Den Berg and Hassink's (2015) research, is that the refugees were bound to affect the economy negatively, when mainly considering the broader, initial impact to the Turkish labour markets (specifically targeting the less skilled economic sectors) and the accessibility of social services such as education and healthcare. In other words, the expectation was that there could be unrestrained inflation in Turkey due to the alarming entry of greater demand by the refugees (Akgündüz, Van Den Berg, & Hassink, 2015).

EMPLOYMENT

A major concern for the Turkish host population concerned employment. There are several elements of the economy related to employment that were affected by the entry of Syrian refugees, such as the level of registered unemployment. This depends on where the refugees settled. Another set of elements of Turkish labour markets that were affected are the employment policies and culture in Turkey, which was compromised by the refugees' need to earn a living without a work permit. Thirdly, wages were affected most probabilistically because the labour market had a sizable increase in the number of potential employees that filed for employment opportunities, which tends to drive down the price of labour.

Before the crisis, Turkey had an unemployment rate hovering around 10%. However, after the crisis, the unemployment of Turkish nationals increased to 11%. While appreciating the fact that by 2016 85% of the refugees had vacated the camps and sought employment in the informal sector, which dislocated many Turkish employees, and the remaining number contributed to the rates of unemployment in the country. However, from the earlier discussion regarding the establishment of businesses by the refugees, it is evident that the refugees also contributed to the job creation process in the country, over the long-run.

The quasi-experimental design by Akgündüz, et. al, is embraced in the research of the effects of the Syrian employment. The south-eastern part of Turkey is the main area of entry and settlement of the Refugees, with 2% of the population accounting for refugees. The study looks into the employment rates for the host Turkish Nationals and the legal immigrants who are not part of the influx Syrian refugee entry. The study correlated two, time periods, one being a time before the entry of the refugees, and the

other study set of data being collected after the entry of the refugees. The two, time periods are 2010-2011, also described as the pre-treatment period, and 2011-2012, also known as the post-treatment period. The settlement being mainly at South Eastern Turkey, also referred to as the treatment area, and the fact that very few refugees entered the Turkish mainland, the mainland is considered a control in the experiment (Akgündüz, Van Den Berg, & Hassink, 2015: Ceritoglu, Yunculer, Torun, & Tumen, 2017).

Employment is the major concern in changing labour markets. In the case of Turkey, Akgündüz, Van Den Berg and Hassink (2015) researched into the inflation of the Turkish employment before and after 2012. They were able to gather data on employment rates in Turkey before and after 2012, running through to 2015. The employment rate was at 45% at 2012, but it reduced to 39.5% after 2012. The unemployment rate was at 9.95%, but it shot up to 11.66% after 2012. These are the control results for the rest of Turkey. Considering the South-eastern parts of Turkey, where immigration was the highest, the employment rate was at 37.37% before 2012, but it increased to 39.5% after 2012. The rate of unemployment was at 14.35% before 2012, but it reduced to 11.6% after 2012 (Akgündüz, Van Den Berg, & Hassink, 2015; Ceritoglu, Yunculer, Torun, & Tumen, 2017).

Akgündüz, Van Den Berg and Hassink's (2015) research goes a long way to prove fortify their literature review and prior research. It is clear that the South-eastern part of Turley was less developed, and many refugees were able to settle in this part of Turkey, with a reasonable degree of ease. In fact, the highest number of refuges settled here. As a result, an economy started developing in this part of Turkey, and there were employment opportunities that were brought about by the Settlement of the refugees.

These findings also provided support for the literature review that suggested that the more developed parts were negatively affected. The statistics show a clear trend of falling employment levels after 2012, when the refugees followed in high numbers from Syria and began interacting with the Turkish host population in the rest of Turkey (Akgündüz, Van Den Berg, & Hassink, 2015).

According to Özden (2013), immigrants in Turkey need to have a work permit to begin working in Turkey. This permit also assists the immigrants to eventually settle as residents. Refugees are no exception. But, in the case of Syrian refugees, the government decided to compromise this particular principle. The government learned in 2013 that there were Syrians who were working without work permits; and, as a compromise, these refugees were not permitted to receive the normal benefits.

An explosion in the refugee population brought up this concern, and the government decided to start acting, quickly, on a provision of work permits to allow the Syrian refugees working in Turkey get full benefits like any other legal immigrants. The fact that Syrian refugees without work permits were under the radar, so to speak, with regards to their wage rates meant that they could demand lower wages so as to received work more probabilistically. This enhanced their demand in the Turkish casual industries such as hospitality, construction, mining, and other casual jobs (Özden, 2013). This is one factor that led to the ease of displacing Turkish national workers from most industries, and increased unemployment's in areas where there were good economic prospects before the entry of the refugees (Akgündüz, Van Den Berg, & Hassink, 2015).

Özden (2013) also researched on some of the past occurrences of immigration and their effect on employment. He took the example of the Germans who returned to

Germany from Yugoslavia and Poland while the Soviet Union was still a superpower. After dismantling the Soviet Union, the Germans who had spent many years in these two countries felt compelled to leave for Germany. They are of the same descent as their host Germans, and so there were fewer cultural differences than would be true for other ethnicities. An excess of 8.5 million people moved into Germany from these two former Soviet Union countries. The immediate effect that was noted was a lower wage in the casual labour sectors. The effect, however, was short-lived. The natives were not pleased by the falling wages, forcing most of them to remain unemployed rather than work for meagre compensations. The implications are that the casual workers are most affected by massive immigration, with their wages going down and others losing their positions. However, a study on Miami immigration that increased the population by 7% shows that immigration did not affect employment patterns and wages in this particular market (Özden, 2013). Again, there are mixed results.

Özden (2013) related the German case to the Syrian refugees in Turkey and realised that there was a relationship. The cases did not vary by much. Unemployment increases were short-lived since some Syrians began getting their work permits, which assisted them in claiming the full benefits that the hosting nationals receive. In addition, they were able to start venturing into businesses, which increased the chances of employment for themselves as well as the hosting nationals. Also, over time, the refugees began affording commodities, enhancing the market for products made in Turkey, giving the hosting nationals' businesses a chance for increased production and expansion, which, in turn, has an effect of enhancing the chances of creating more employment opportunities (Özden, 2013).

INFLATION

Balkan and Tumen (2016) investigated the effects of forced immigration from Syria to Turkey, with the specific objective of evaluating the changes in consumer product prices. The fact that it was forced immigration, as opposed to the pattern of settlement of the Syrian refugees being more regular and regulated, meant that the researchers were able to make the experiment natural. The researchers also embraced the Quasi-experimentation method. The quasi-approach was more suited to this experiment because the forced immigration does not give the refugees an option of countries to run into from Syria, but rather a closest choice. The only nearby country to the Northeast of Syria is the Southeast of Turkey, and Turkey is a relatively politically stable nation within the region. Refugees will only feel secure in such a situation. However, the settlement is expected to affect the economy regarding the demand and supply. Earlier researchers that studied Germany as a recipient of refugees who had set camps in the former Soviet Union countries such as Poland suggest that there is an influence of forced immigration on the prices of goods. By early 2016, statistics indicate that deposits into Turkish banks from Syrian nationals had exceeded 500 million US dollars. Through their resourcefulness, refugees had found the means to wire part of their savings into the Turkish banking system.

The impact of the cash inflows became very important as a contribution to the economic progress and stability of the refugee crisis. In some instances, the government provided full support to refugees who are within their boundaries. However, in the case of Syrian refugees, many refugees built mechanisms that could lead to self-sufficiency. The greatest influence that was noted to shift inflation was with regards to the disproportionately high demands for basic commodities that was triggered by the influx

of a demanding population in despair. Of course, eventually, when the regions of Turkey that hosted the most refugees adjusted to the shock, prices began to fall into a cooled equilibrium. This provided the hypothesis for this specific research (Balkan, & Tumen, 2016).

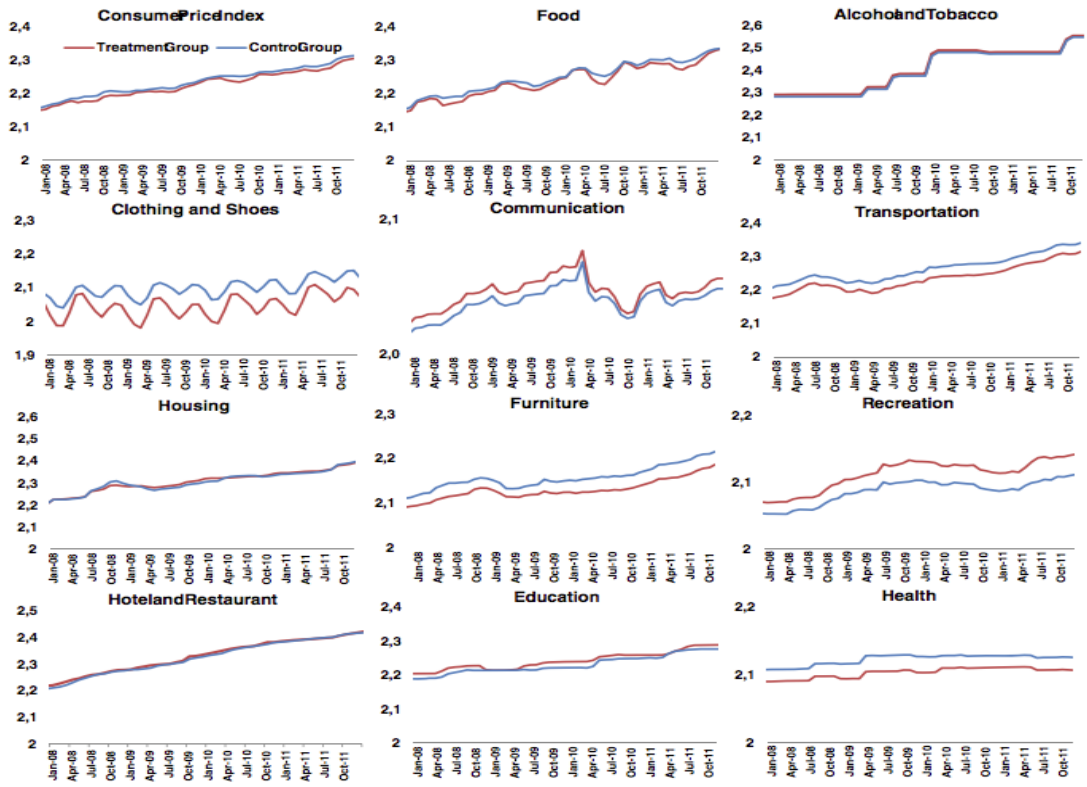
Cortes (2008) conducted another related study. The study considered the entry of immigrants into the United States over time, mostly from low-income countries. The study was focused on basic commodities that the immigrant consumers were likely to use and produce in the host nation. He realised that a 10% population increase of immigrants reduces the prices of these basic commodities by a 2%. He suggests that the reduced cost of production have a direct effect on the prices, and the demand makes sellers expand their market, thus benefiting from lesser losses. Most influential and interesting, however, is the realization that the immigrants' search for cheaper alternatives, forced all producers to lower their prices.

Zachariadis (2012) also researched on the effects of immigration on food prices. His study suggests that a 10% increase of immigrant employees reduces prices of basic foods by 3%. This research is similar to Cortes (2008) in the context that they both consider immigration, not necessarily forced immigration as it is the case with the Syrian Refugees. They also consider commodities that the immigrants are more likely to buy. These two examples run seemingly contradictory to what was to be expected in Turkey. However, such economic circumstances are not beyond the scope of anticipated, long-run implications of the Syrian influx.

The quasi-experiment carried by Balkan and Tumen (2016) used the difference-in-differences method to bring about a perfect correlation. The constants were two periods, the first being the period before the setting in of the Syrian refugees in Turkey.

This has been referred to as the pre-immigration period and extends from Jan 2008 to July 2011. The second period is the post-immigration period that extends from July 2011 to October 2011. The products that were studied on food, alcohol and tobacco, clothing and shoes, communication, transport, housing and furniture, recreation, hotel and restaurant, education, health, and others. The study also considered the treatment area and the control area, which is mainly the rest of Turkey. The treatment area is Southeast Turkey (Balkan, & Tumen, 2016). The results in the following charts were obtained:

Figure 1: Effects of Syrian refugees in Turkish prices
(These charts show the results of an experiment conducted reagrding the effects of Syrian refugees in Turkey on consumer prices)



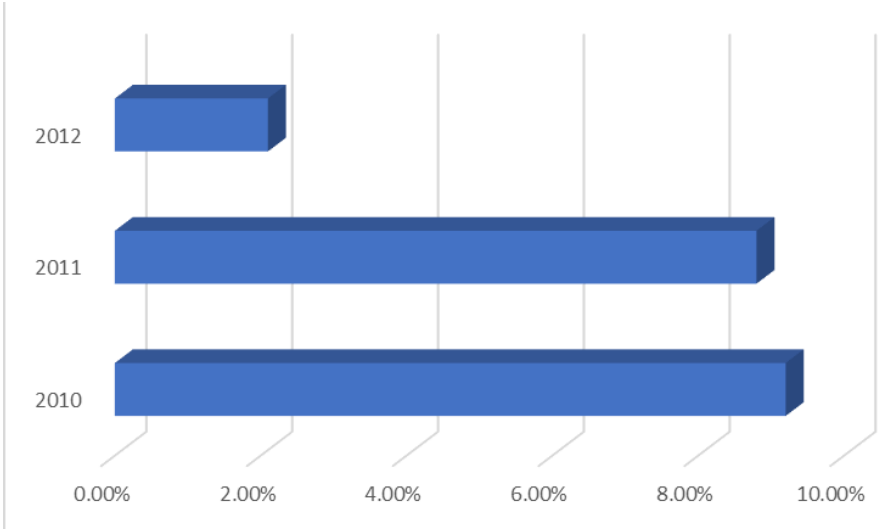
From the chart above, it is clear that the natural experiment provided varied responses for various components. It was also clear that education was the most affected parameter. The cost of education reduced by 10.5%. The researchers attributed this

drastic fall to the Turkish government subsidy that was meant to assist the Syrian Refugees. Restaurant costs reduced by 5.4%, a fall that was attributed to the fact that restaurants and hotels, which are casual labour intensive, began to hire the immigrants that were looking for vacancies even without asking for full benefits or higher wages. The cost of food went down ultimately by 4.5%, a fall that the researchers attributed to the search for cheaper alternatives that the refugees could afford, forcing some local producers to lower their prices to fend off competition from the substitutes (Balkan, & Tumen, 2016).

GROSS DOMESTIC PRODUCT

The IMF Works Economy Outlook provides data on the gross domestic product. A proper time to study the Gross Domestic product of Turkey is between the years 2010 and 2012. This is because the GDP of previous years, which include 2007 and 2008 were affected by the great economic recession, which can provide exaggerated data that is removed from usual trends. The real GDP growth of Turkey in 2010 was 9.2%. This is a pre-treatment period, before the entry of the Syrian refugees. The real GDP growth of Turkey in the year 2011 was 8.8%. This is the year that saw the entry of Syrian refugees during the second half. The real GDP growth in 2012 was 2.1%. These figures are represented in the graph below:

Figure 2: Turkey's Real GDP Growth Rate between 2010 and 2012



Analysing the presented data, it is clear that there was a drastic fall of the GDP after the settling of the Syrian refugees in Turkey. The gross domestic product is measured in the relationship between the imports and exports, among other such macro variables, like consumer spending, government spending, investment, etc. Turkey is a country that exports to Syria, but the political unrest has caused tension, which is mainly the result of a fractured Syrian business environment. In addition, most of the Syrians who generated a market for Turkish products were already in Turkey. With these two factors in play, the result becomes clearer (Akgündüz, Van Den Berg, & Hassink, 2015).

The fall of the Turkish GDP began slowly, starting in in 2011. This is because the first half of the year did not experience a considerable number of refugees from Syria. However, after July 2011, the refugees began to find a way to streamline into Turkey, and the number of refugees increased by the day. At first, the treatment areas provided tent homes to less than 16,000 refugees in Southeast Turkey. After some months thereafter, Turkey was hosting half-a-million refugees who (a) could not be

contained into tent communities and (b) needed to interact in towns and cities with the Turkish people for basic services. Syrian conditions continued to get worse, making business improbable, which ultimately caused Turkey to lose its business ties with Syria. This quickly reduced Turkey's exports (Akgündüz, Van Den Berg, & Hassink, 2015).

Kuyumcu and Kösematoğlu, (2017) also researched several factors of the economy affected by the Syrian refugees. The nation had a gross domestic product that was growing with an average of 5% before the year 2011. In 2011, few refugees began to come into Turkey, and the rate of GDP lowered to 4.2%. It continued to fall until 2014, when it began to stabilise at 3.0%. This implies that the GDP itself did not fall, but the rate of growth of GDP was affected negatively. Then, starting around 2015, the Turkish migration plan shifted which allowed the government to become more selective in its entrants. The effect was again felt on the economy. This seemed to have an immediate impact. In 2015, the country experienced an increase in GDP by a 4%. The head of Istanbul securities mentioned that the increase could be attributed to the increased government expenditure, as well as the increased population that triggered higher market demands for locally produced goods (Kuyumcu, and Kösematoğlu, 2017).

CHAPTER 3: METHODOLOGY

THEORIES AND METHODOLOGIES

From July 2011 through to the present, internal conflicts and civil strife within Syria's borders have been the cause of a great exodus of Syrian nationals across the world (i.e. refugees), in search of asylum and salvation. Up to this point, the greatest share of these refugees has been settling within the borders of neighbouring Turkey due to a list of reasonable factors, such as, but not limited to: (i) geographical proximity, (ii) cultural similarity, and (iii) political-economic stability. Despite these seemingly comforting conditions that characterise Turkey, the growing refugee count, numbering several hundred thousand, has been viewed as an excessive and strenuous matter to researchers, where the median consensus leans in favour of stating that the refugees are or will be a negative economic influence. This, however, is merely the general leaning, and not a conclusion indicative of all the opinions across authors and published works. In actuality, the general consensus is rather split and in conflict of total economic impact with regards to the arrival of Syria's refugees. The purpose of this paper is to sift through the data, without prior bias, and determine: (a) is there even a calculable impact of the presence of Syrian refugees within Turkey and (b) is a negative or positive relationship. In this, the null hypothesis would be that the presence of the Syrian refugees has impact on the economy of Turkey.

DATA COLLECTION, POPULATION AND SAMPLING

All data within this research paper was extracted from public sources. There was no use of data surveying or data manipulation within this paper (e.g. no transformations of variables using the natural log, no interaction variables, etc.). The time-span for this dataset extends, quarterly, from the second quarter of 2011 through

to the ending quarter of 2017, and the primary variables for experimentation (i.e. the dependent variables) – the total of unemployment rate, the inflation as measured by the consumer price index and the Turkey's gross domestic product were obtained from the World Bank Database. The independent variables the total of refugees was obtained from UNCHR, Consumer confidence index, exports, imports, Industrial Production Index, wage change and trade were obtained from Turkey Statistical Institute.

ANALYSIS PLAN AND STATISTICAL PROCEDURE

All collected data was organised in Microsoft Excel and then treated, statistically, within Stata. Aside from the descriptive statistical moments, which amassed to calculating the mean and the standard deviation of each dependent variable, two testing methodologies were utilised to measure the impact of the Syrian refugee influx against Turkey's macroeconomic conditions: (i) the two-sample t-test, which is used to determine whether two population means are equal and whether a new treatment (the influx of refugees) is superior to a current treatment, and (b) regression analysis. Seeing as how the t-test statistic is more prescribed and less flexible to interpretation, this report will expound upon the regression description.

The dataset is listed in time-series format, where each observational row is a quarter of a year. Despite this data type, a static ordinary least squares (OLS) regression model was deemed appropriate (this is also due to a limitation, mentioned later) for the purposes of measuring the total impact of the number of refugees within Turkey, while using a series of control variables to balance the models. Each regression model follows the format: $y_t = \beta_0 + \beta_1 z_t + \beta_k z_n + u_t$, where $t = 1, 2, \ldots n$. Upon observation of the visual variable relationships of each variable scatter-plotted against each other, there was understandably very little evidence of homoscedasticity. In this, it was seen fit to

run each regression with robust standard errors to generically correct for extreme instances of heteroscedasticity.

Across each statistical test, the alpha level, by which the p-value hypothesis testing was compared, was fixed at 10%. This then translates to a confidence interval of 90%

Validity and assumptions

Across each OLS model run, all independent variables utilised within the regressions were added only when economic theory justified their presence. Moreover, instances of multicollinearity were eradicated under the pretence of economic justification and mathematic sensibility. With regards to model specification, after each regression, the independent variable with the highest p-value greater than .10 would be removed, and the model would be re-run. This process would continue until only all variables with p-values less than or equal to .10 remained, with the exception of: (i) the variable for refugees (which is studied for its p-value and its coefficient magnitude) and (ii) variables that disproportionately harm the regression results should they be removed (despite their p-value, since omitted variable bias was proven to be too great a dampener to the R^2 and the p-values of other independent variables). Across these tests, the R^2 was an after-thought, used as a means of comparing the quality of each regression, once all disrupting p-values were removed.

The assumptions of the model are those of the OLS; and, to the greatest extent possible, these assumptions were accounted for: (1) the linear model is composed of linear parameters, (2) there is random sampling across the observations, (3) the conditional mean is zero, (4) there is no instance of multicollinearity, (5) there is homoscedasticity, accounted for through robust standard errors] and no autocorrelation,

and (6) the error terms are normally distributed. There are limitations to this report that prohibit all of the assumptions from being realised; however, it is the prevailing assumption of this report that the OLS is the best linear unbiased estimator.

LIMITATIONS

The situation in Syria concerning the civil unrest and the refugee matter that continues to happen as a result is all relatively recent as an international affair. Moreover, the pertinent variables for consideration in this report are quarterly. Given this, the total number of observations comes to an unfortunate twenty-six. This, by usual measures, is considered to be a really small dataset. However, given the needs of the report, and the constraints by which the data could be obtained, this dataset allows for all the necessary variables to be considered. It is also the fault of this smaller dataset that the variables and regression errors are unable to exhibit the otherwise preferable normal distributions that come from randomly selected variables. Lastly, it is also the fault of this smaller dataset that more advanced time-series regression techniques (that handle autocorrelation more precisely) were not considered.

CHAPTER 4: Research Finding and Discussion

DESCRIPTIVE STATISTICS

Before starting correlative statistical analyses, it is important to have a sense of the overall trends across the data. The table below is a display of the descriptive statistics for the recurring independents (across the regressions) and the dependent variables of this project, ranging from the earliest date of the fourth quarter of 2011 through the second quarter of 2017:

Table 1: Describe statistic for the recurring independents

Statistic	Total Refugees	Capital Investment	Unemployment Rate	Consumer Price Index	GDP Growth Rate
Mean	1,293,745	154	9.82%	246	1.37%
Median	822,596	151	9.63%	243	1.33%
Standard Deviation	1,118,539	37	1.23%	33	1.19%
Skew	0.310	0.225	0.326	0.282	-0.040
Max	3,005,475	222	12.43%	310	3.91%
Min	8,000	99	7.70%	199	-1.20%
Range	2,997,475	123	4.73%	111	5.11%
2011 Q4 data point	8,000	106	8.60%	199	1.09%
2017 Q2 data point	3,005,475	222	10.30%	310	2.05%

As is evident in the higher table the number of refugees increases significantly from 8000 to 3 Million This increase led to an increase in other variables as it is clear that Capital Investment doubling and unemployment rate increase by 1.7 %. With the exception of the Total Refugees variable, each of the other variables of interest has nearly matching means and medians, which demonstrates that the data conforms to fairly normal distributions, despite the limited data available. Moreover, on this note regarding distributions, the skew of each variable shows signs of approximately symmetric or very mild skew (given the limited amount of data, kurtosis was not

perceived as a meaningful statistic). As mentioned beforehand, the total refuges variable is an exception to the rest of the variables displayed above. This is because the variable for refugees is the experimental variable, which is not as heavily scrutinised as variables that are used as controls or dependents.

Below are a series of time-series graphs, displaying the data of the abovementioned variables:

Figure 3: Time-series of Total Refugees

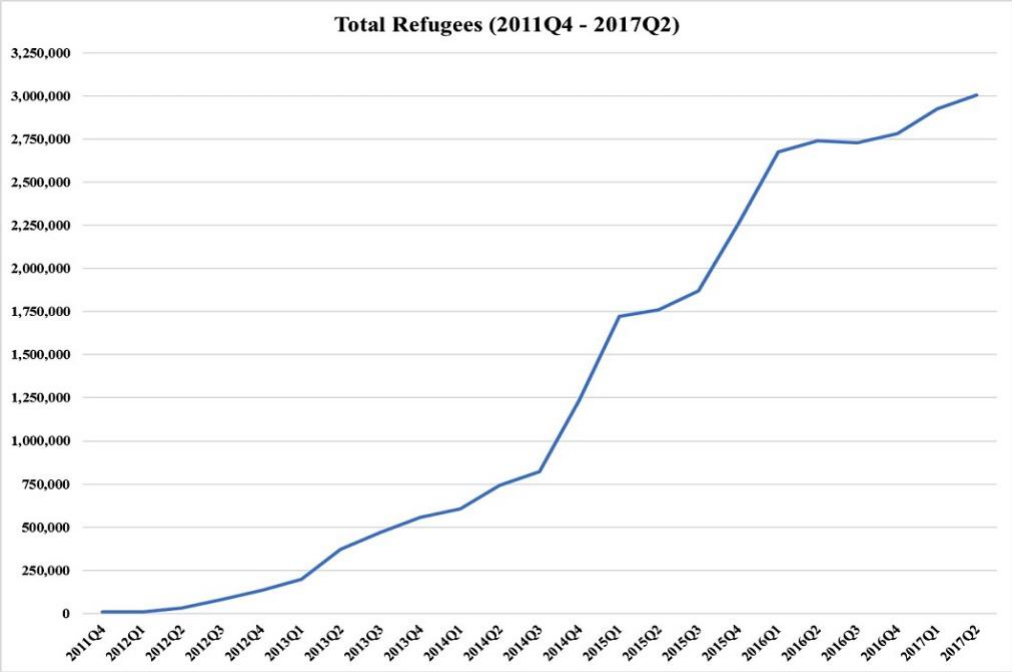


Figure 4: Time-series of Capital Investment

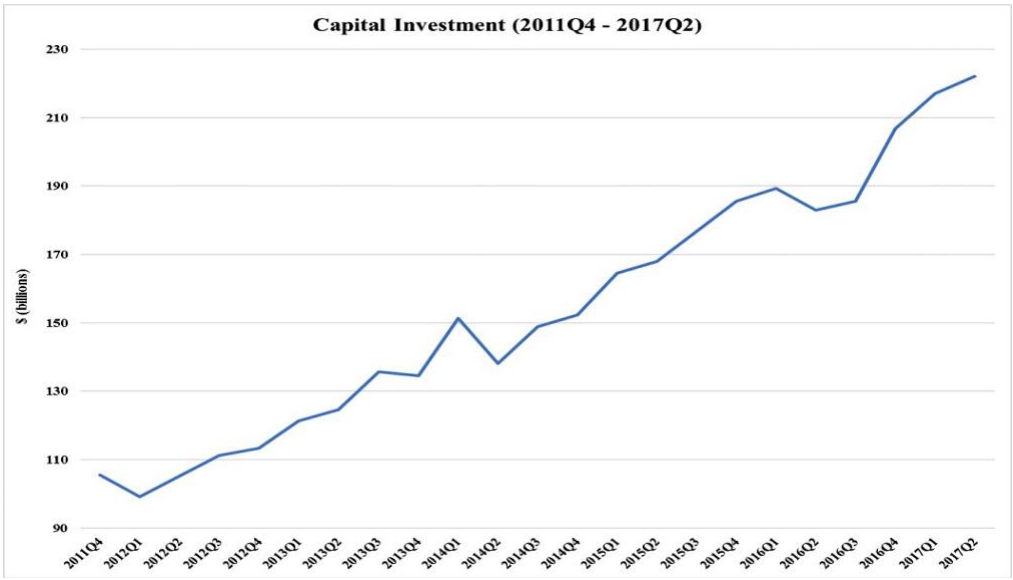


Figure 5: Time-series of Unemployment

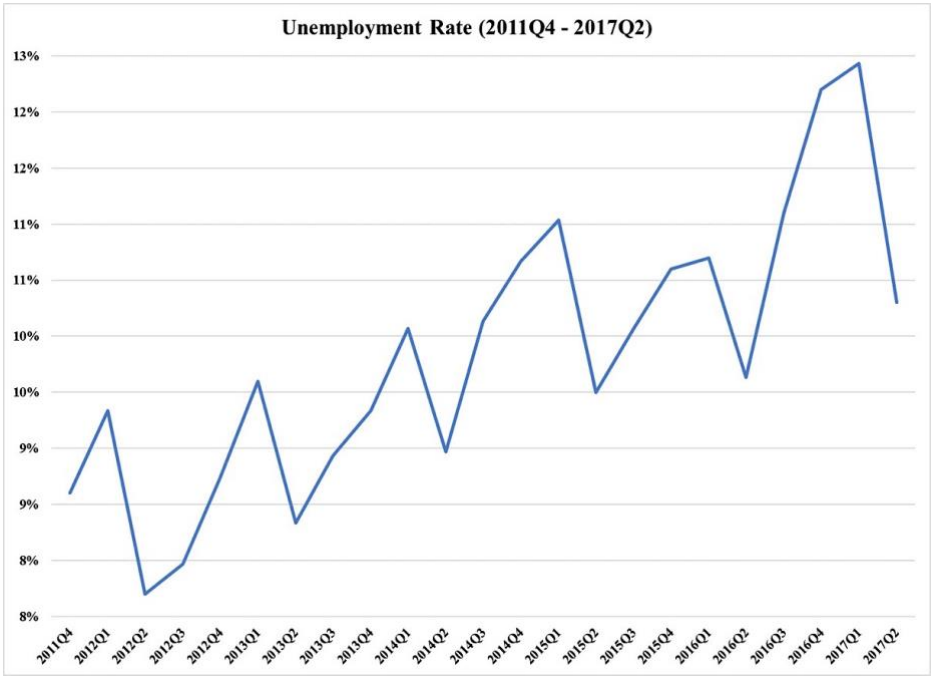


Figure 6: Time-series of the Consumer Price Index

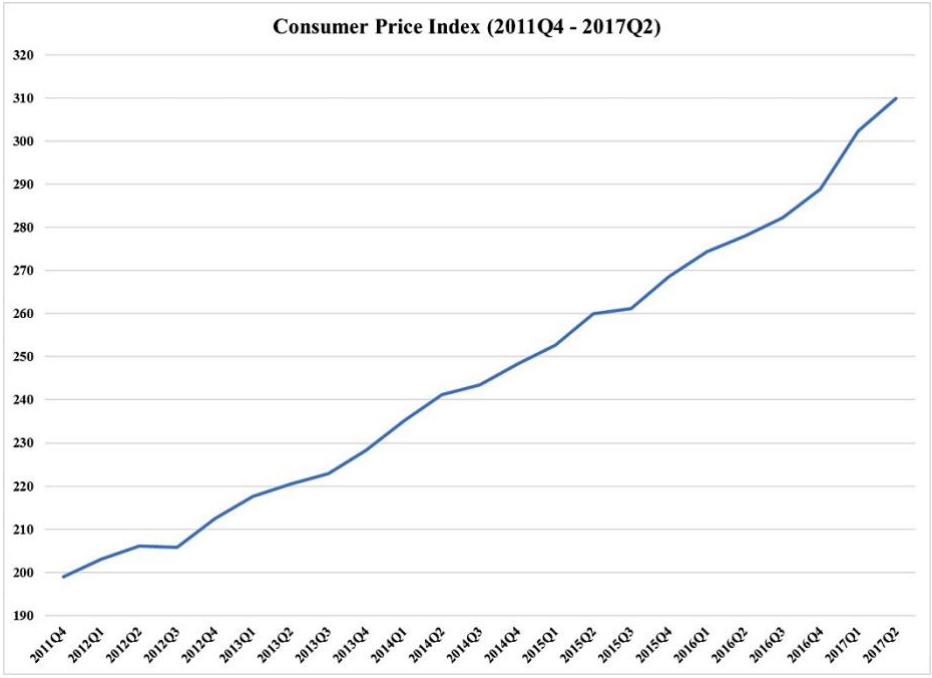
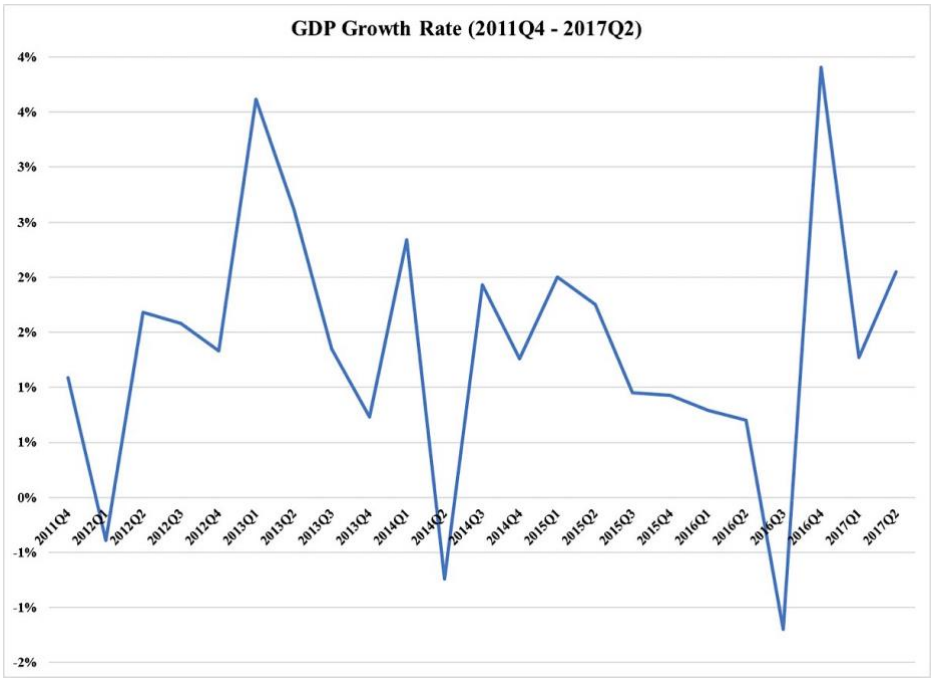


Figure 7: Time-series of the GDP Growth Rate



As before mentioned, figures 3 through 7 are time-series graphical representations of the total number of refugees entering Turkey, Turkey's capital

investment amount, Turkey's unemployment rate, Turkey's consumer price index and Turkey's GDP growth rate, respectively, from the fourth quester of 2011 through to second quarter of 2017. While these graphs may not, from the outset, provide information more complex than, perhaps, observing the relationship between the max and min versus the earliest and latest data points for each variable, the graphs do provide interesting visual clues regarding the trends of each variable against the one dimension they all share – time.

With the exception of the final time-series graph–i.e. the GDP growth graph (Figure 7), above–there is a distinctively positive trendline across all of the major controls and dependent variables. In most of the above cases, the trend of the data can be seen as rather linear. Apart from the GDP growth rate, the graph for total refugees (Figure 3) also displays a slightly non-linear trend. However, despite this, the overall time-series trend would be more appropriate as a linear additive variable to regression analysis, as opposed to the cubic function that it exhibits. Given these insights, it is confirmed that the most appropriate action is to run ordinary least squares regressions, without the need for any alterations or monotonic transformations to the variables.

Beyond the graphical analyses, there is another quick way to assess the general relationship between each variable–checking for any instance of multicollinearity or any causes for interactions or instruments. Below is the correlation matrix, which makes use of the Pearson's product moment coefficient:

Table 2: Pearson correlation matrix between retweeted variables

	Refugees	GCF	CCI	CPI	Growth	IPI	Unemployment	Wage change
Refugees	1							
Capital Investment	0.97*	1						
CCI	-0.66*	-0.68*	1					
CPI	0.98*	0.99*	-0.68*	1				
Growth	-0.06	0.06	-0.11	-0.1	1			
IPI	0.8*	0.80*	-0.51*	0.8*	0.13	1		
Unemployment	0.7*	0.82*	-0.58*	0.8*	0.09	0.54*	1	
Wage change	0.25	0.32	-0.2	0.2	-0.01	0.02	0.18	1

*Note: * indicates a p_value≤0.05*

Upon observation of the matrix, it is evident that there are some highly (if not disproportionately so) correlated variables. This, pertaining the future regression specifications, could be construed as a negative sign for further statistical modelling, since highly correlated variables that are intended to be independent within a regression equation could lead to instances of multicollinearity. However, relating back to the background research of Chapter 2, it is not my belief that these high correlative coefficients will be an issue, since economic theory suggests that these correlations may be more circumstantial, as opposed to causal. Thusly, despite some preliminary warning to further modelling, but all the while acknowledging that Turkey is an otherwise consistently well-performing, transitional macroeconomy, I will proceed to conducting regression testing with linear model specifications (with any instances of variables exhibiting poor p-value testing, from the above matrix, being removed).

REGRESSION ANALYSIS

The first regression that was run concerned Turkish unemployment rates. And, initially, five variables were used in the regression: (i) the number of refugees, (ii) macro capital investment, (iii) total trade (i.e. imports plus exports), (iv) the consumer

price index (CPI) and (v) the percent change in Turkish wages. The results from this first unemployment regression can be seen below:

Table 3: regression model of Unemployment on relative economic variables

			Prob > F = 0.0000		Number of obs = 23	
			R-squared = 0.7321		F(5, 17) = 13.26	
unemployment	Coef.	Robust Std. Err	t	P>|t|	[90% Conf. Int.]	
refugees	-1.29E-06	7.80E-07	-1.65	0.118	-2.64E-06	7.13E-08
capital investment	0.033777	0.0248133	1.36	0.191	-0.0093884	0.0769425
trade	-0.0204264	0.1266318	-1.61	0.125	-0.424554	0.0160251
cpi	0.0265338	0.0367972	0.72	0.481	-0.0374788	0.0905464
wagechang	0.013735	0.0593548	0.23	0.82	-0.0895192	-0.1169893

The results give an initial impression that not all of the chosen independent variables are relevant to explaining Turkish unemployment rates. At first glance, the p-values (i.e. the probability of finding the observed results when the null hypothesis (H_0) is true) of the percent change in Turkish wages and the CPI seem to be disproportionately higher than the remaining three variables considered. From this, they were removed from the next regression concerning unemployment (note: while the R^2 is a generally helpful measure for quickly comparing the "fit" of each regression, it is also a measure that becomes biased by adding more variables, even if some of the variables are statistically insignificant. Therefore, the R^2 is not the greatest measure of my focus). Please see below for the re-run regression for the Turkish unemployment rate:

Table 4: backword selection for unemployment

		Prob > F = 0.0000		Number of obs = 23		
		R-squared = 0.6777		F(1, 21) = 44.16		
		Adj R-squared = 0.6624		Root MSE = .71311		
unemployment	Coef.	Std. Err	t	P>|t|	[90% Conf. Int.]	
capital investment	2.72E-02	4.09E-03	6.65	0.000	1.87E-02	3.57E-02
_cons	5.644017	0.6462122	8.73	0.000	4.300145	6.987889

An initial observation is that between these two regressions, the R^2 decreased, which would normally signify that the new regression is weaker. However, this was only a decrease of –0.79%, as opposed to the decrease of–60.63% in aggregated p-values across the refugee variable, capital investment, total trade and the regression constant, which shows remarkable improvement in the quality of variables represented within the regression. This is despite the fact that the p-values for refugees and capital investment are still above the 10% level of alpha. The general equation for this regression is as follows:

unemployment rate = 5.64 + 0.027*(*capital investment*)

These results can be interpreted in the following manner: each additional billion dollars in capital investment increases the unemployment rate by 0.0271%. This regression came from several iterations down from the original regression; and, with respect to the p-value test, alone, it is a more refined regression. However, as a result of the iterative approach, the variable for refugees was removed because it, too, exhibited an unfavourable p-value. This is to say that, perhaps, the rise of refugees within Turkey is not truly related to the increases to unemployment over the same amount of time. If this is the case, then this is simply the case; and, quite an interesting on But, there is a thought of concern concerning this model – are there too few

explanatory variables? Or, does capital investment, alone, explain the lion's share of unemployment in Turkey? This seems, from the outset, to be unlikely. Moreover, there is reason to believe that this model could be suffering from omitted variable bias, where the variable for capital investment is in need of proper controls to readjust its coefficient to a more refined magnitude. Unfortunately, further variable controls and conditions are beyond the scope of this particular project's research questions and focus. It would be interesting to conduct further study into the potential causes between a positive relationship between capital investment and unemployment rates; but it is now necessary to conduct additional tests for the remaining dependent variables.

The regression output below was the first iteration of variable conditions estimating the consumer price index:

Table 5: regression model of CPI on economic variables

Prob > F = 0.0000 Number of obs = 23
R-squared = 0.9889 F(6, 16) = 369.07
Root MSE = 4.082

cpi	Coef.	Robust Std. Err	t	P>|t|	[90% Conf. Int.]	
refugees	1.48E-05	3.07E-06	4.83	0.000	9.45E-06	2.02E-05
capital investment	4.76E-01	1.04E-01	4.56	0.000	2.94E-01	6.59E-01
confidence index	-3.73E-02	1.87E-01	-0.2	0.845	-3.64E-01	2.90E-01
unemployment	8.05E-01	1.22E+00	0.66	0.518	-1.32E+00	2.93E+00
wage change	-5.41E-01	3.34E-01	-1.62	0.125	-1.13E+00	4.30E-02
trade	1.35E+00	5.39E-01	2.51	0.023	4.11E-01	2.29E+00
_cons	107.8696	21.89544	4.93	0.000	69.64268	146.0965

Immediately, the consumer confidence index and the unemployment rate are acknowledged as statistically insignificant, as they do not yield an appropriate p-value near the 10% alpha level. After a few more iterations, where each variable with the highest p-value was manually removed, the regression results displayed.

Table 6: backword selection for CPI

		Prob > F	= 0.0000	Number of obs =	23	
		R-squared	= 0.9899	F(4, 18) =	442.11	
		Adj R-squared	= 0.9877	Root MSE	= 3.6701	
cpi	Coef.	Std. Err	t	P>|t|	[90% Conf. Int.]	
refugees	1.77E-05	4.05E-06	4.37	0.000	9.19E-06	2.62E-05
capital investment	5.08E-01	9.79E-02	5.19	0.000	3.02E-01	7.14E-01
ipi	-4.15E-01	2.20E-01	-1.89	0.075	-8.78E-01	4.72E-02
trade	2.15E+00	6.44E-01	3.33	0.004	7.93E-01	3.50E+00
_cons	127.923	19.22933	6.65	0.000	87.52367	168.3223

After some needed iterations, which involved removing the troublesome variables (wage change, the unemployment rate and consumer confidence) and the replacement of the consumer confidence variable with IPI, the regression became better specified in terms of the p-value requirements of the project. These results can be interpreted in the following manner: (i) each additional 100,000 refugees increases the CPI by 1.77 points, (ii) each additional billion dollars of capital investment increases the CPI by 0.508 points, (iii) each additional unit of the IPI decreases the CPI by–0.415 points, and (iv) each additional billion dollars in trade activity increases the CPI by 2.145 points. The equation for the above results can be stated as:

$$CPI = 127.923 - 0.000018*(refugees) + 0.508*(capital\ investment) - 0.415*(IPI) + 2.145*(total\ trade)$$

Something else of value to note is the magnitude of the R^2, almost matching a perfect "fit". Remembering that the R^2 is a measure of the variance surrounding the line of best fit, coupled with the visual relationships between the number of refugees within Turkey and Turkey's capital investment and CPI figures, it is not a wonder how the R^2 is so high. Please see below:

Figure 8: Scatter diagram of Total Refugees and CPI

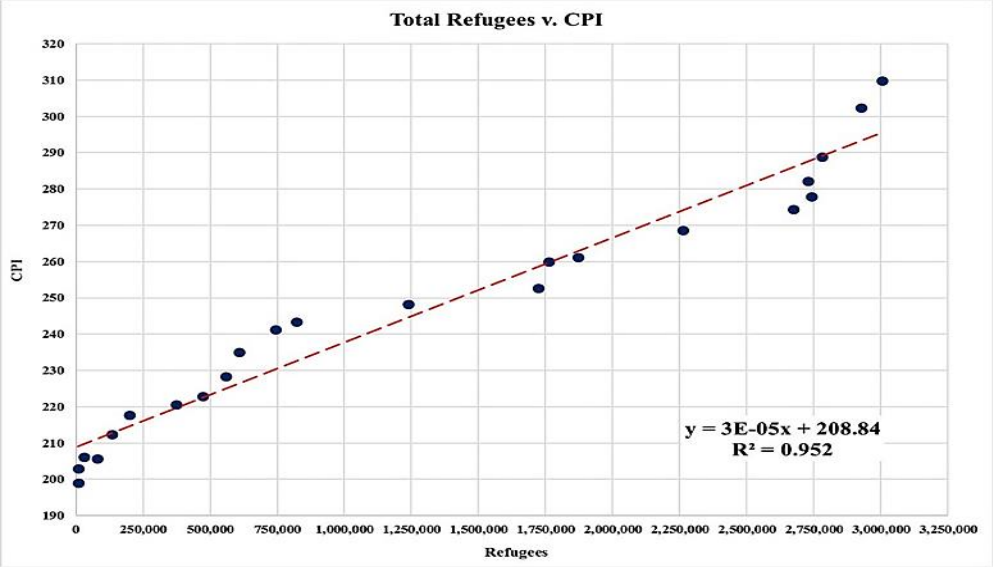
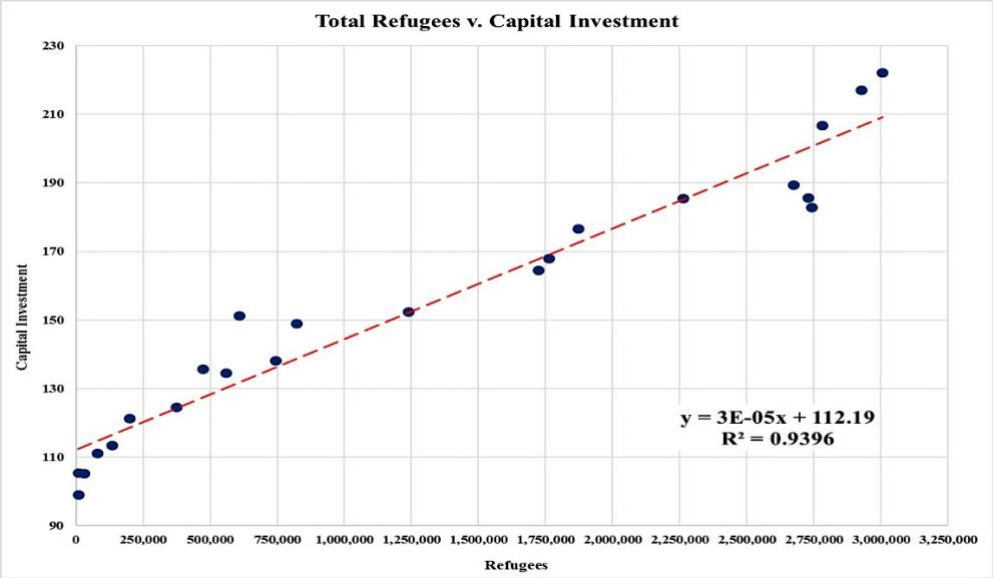


Figure 9: Scatter diagram of Total Refugees and Capital Investment



Based on the figures above, the number of refugees could serve as an indication of CPI's movements, alone (Figure 8). However, given the sinusoidal nature of the

actual CPI to refugee data points, more variables needed to be considered with the CPI regression, such as the variable for capital investment (Figure 9), which helps to explain for a similar variation in the CPI as the variable for the number of refugees. This near overlapping in the visual communications in the scatter plot of the CPI versus the number of refugee and capital investment helps to explain for the disproportionately high R^2. This overlapping circumstance may even demonstrate that there is a possibility of multicollinearity. However, as evidence in the ability to run the regressions without the software rejecting the output, there was not yet a concern for multicollinearity, which is a positive sign in wanting to use the output results.

The last macroeconomic regression for consideration was the GDP growth regression. Similar to the previous regressions, a series of control variables were considered to help balance the true coefficient for total refugees. The initial regression is presented below:

Table 7: regression model of GDP growth on relative economic variables

Prob > F = 0.0153 Number of obs = 23
R-squared = 0.2621 F(4, 18) = 4.12
Root MSE = 1.1327

growth	Coef.	Std. Err	t	P>|t|	[90% Conf. Int.]	
refugees	-2.06E-06	8.72E-07	-2.36	0.030	-3.57E-06	-5.47E-07
capital investment	5.70E-02	1.84E-02	3.1	0.006	2.51E-02	8.88E-02
trade	1.40E-02	1.52E-01	0.09	0.928	-2.50E-01	2.78E-01
ipi	3.40E-02	7.71E-02	0.44	0.664	-9.97E-02	1.68E-01
_cons	-9.278144	7.523521	-1.23	0.233	-22.32441	3.76812

In the case of the GDP growth initial regression, the most statistically insignificant variable from the first iteration (not displayed within this report) is the total refugee variable (as measured by the disproportionately insignificant p-value of 0.954), which would normally indicate that this variable should be removed first.

However, since the total refugee variable is the variable of study, the next highest p-value will dictate the first variable to be removed from further interactions. From this, there is an additional note about the above regression (i.e. the second iteration), and that is the use of the IPI instead of the CPI. This is because the first set of regression iterations, which yielded the statistically insignificant total refugees variable, made use of the CPI, and that, alone, was the cause for impacting the refugee variable negatively. To correct for this, the IPI was chosen as a replacement, and that is because this price index includes the purchasing of all individuals, within a country, from nationals to refugees. With this variable correction, the new p-value for the total refugee variable is 0.030 and the first variable to remove is the total trade variable. The final regression iteration for GDP growth is displayed below.

Table 8: backword selection for GDP growth

				Prob > F = 0.0626	Number of obs = 23	
				R-squared = 0.2420	F(2, 20) = 3.19	
				Adj R-squared = 0.1662	Root MSE = 1.0891	
growth	Coef.	Std. Err	t	P>|t|	[90% Conf. Int.]	
refugees	-2.12E-06	8.45E-07	-2.51	0.021	-3.88E-06	-3.56E-07
capital investment	6.37E-02	2.54E-02	2.51	0.021	1.07E-02	1.17E-01
_cons	-5.692499	2.871348	-1.98	0.061	-11.68203	0.2970268

The general formula for this regression is as follows:

GDP growth = –5.693 – 0.00000212*(refugees) + 0.0637*(capital investment)

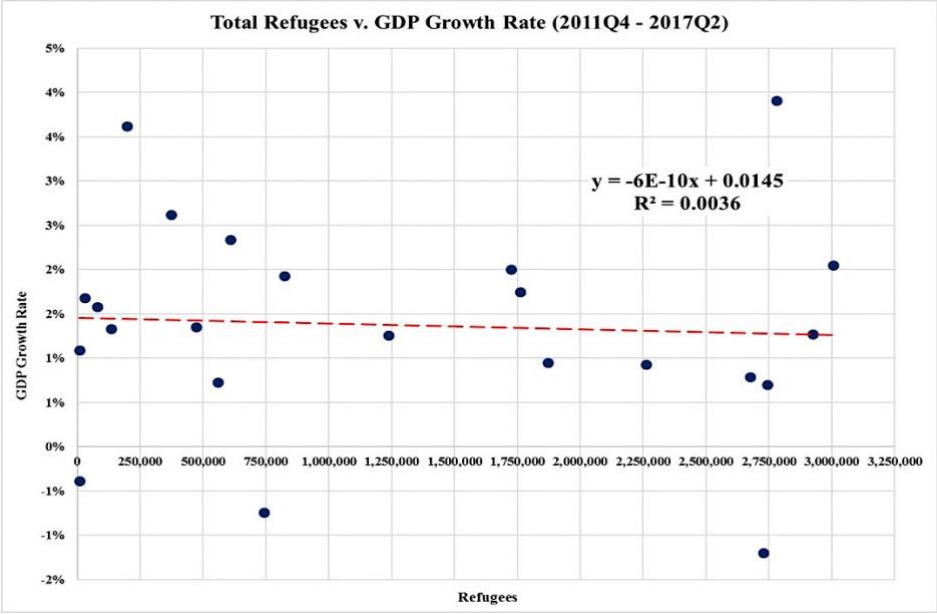
where, (i) each additional 100,000 refugees decreases the GDP by 0.212% and (ii) each additional billion dollars in capital investment increases the GDP by

0.0637%. This follows economic intuition, as outlined within Chapter 2.

There are a few notes to dissect from this regression. But, firstly, the removal of the IPI from the regression is addressed. While the IPI was necessary for course-correcting the significance of the refugee variable (meaning that it allowed for other variables to be removed from significance that the CPI was bolstering against the refugee variable), it, ultimately, was not significant when other variables were removed due to their higher p-values. What remained were two variables, the total refugee variable and the capital investment. Given how highly correlated these two independent variables are to one another, it is not a big surprise that they would remain within the regression. But, what is interesting to note about the estimation of GDP growth is that what only needed to remain, truly, is the total refugee variable; and, it is a negative variable. There is not much that is certain regarding predictions of economic growth (aside from regressing what are exact components of the GDP); but, here, the situation surrounding the high influx of refugees appears to be so dramatic to the Turkish economy, that this variable, alone, could be a reflective estimate for roughly 25% of the nature of growth within the Turkish economy. A final note about this regression is the lower R^2, when compared to the previous regressions. This is, again, not too surprising, since GDP is a heavily amalgamated metric that demands many inputs to compute. It's growth rate will always also embody this complexity. However, despite this degree of complexity within the dependent variable, the refugee variable is able to account for the general trendline, despite needing the assistance of other variables (note: while it is true that this regression did not demand as many variables, it is most likely because the highest value variables for the Turkish economy is not used. If provided

the chance to continue this work, it would be good to experiment with new variable conditions). The graph below shows the degree of variation between the total refugee variable and the GDP growth rate:

Figure 10: Scatter Diagram of Total Refugees and GDP Growth



CHAPTER 5: RESULTS

As observed from the above analyses, there are many factors that affect the economic growth rate of Turkey. Some of these factors include: (a) the immigration of Syrian citizens into the country, (b) the consumer price index, (c) the individual price index, (d) capital investments and (e) trade. However, while each of these factors have some degree of effect on the Turkish economy, those degrees of significance vary greatly across the variables.

Factors such as the immigration of Syrian refugees, the CPI, the IPI and the capital investments have the largest, observed effect on the economic growth of Turkey, regardless of the considerable variation amongst these variables. Ultimately, it is the belief of this study that the number of refugees entering the country is the main factor impacting the economic growth rate and gross national income of Turkey. This implies that there are other aspects that are hitched to the influx of refugees that are affecting the Turkish economy, such as increased government funding and injecting resources that would otherwise be used in other sectors of the economy rather than to the refugee camps and organisations. This main issue here is that, despite now knowing where the problem is originating from, it is virtually impossible to control the flow of immigration in the region since there is so much destabilising conflict.

Beyond the immediate housing and food needs of the Syrian refugees, there is a large percentage of those entering Turkey that suffer from health challenges. These are all issues that the Turkish government now has to attend to, beyond the scope of its usual fiscal budgets and general economic despair. Unfortunately, over the years, this refugee influx has been progressively increasing, despite the efforts by countries within the regions to stop the spread of civil strife and violence (İçduygu & Diker, 2017).

As observed from the regression analyses, the factor that most impacts the Turkish employment rate (and, by association, the unemployment rate) is the variable for the number of Syrian refugees, and the broad impact is noted with a negative regression coefficient. This implies that the employment market is over-populated; hence, the manpower needed is now disproportionately low in comparison to previous years. However, despite this, most of the refugees now live outside of the designated refugee camps; and, those inside of the camps are quickly finding ways to be gainfully employed, which has reduced the refugees' dependency on the Turkish government for basic needs. This is most certainly a long-run consideration and now realised observation. But, on the other side of this issue, concerning the over-populated jobs market, the employment rate of Turkish nationals, and their wages, have been on a decline, since the refugees are willing to work for less (İçduygu & Diker, 2017). One solution to this is for the Turkish government to incorporate the refugees, formally, into the labour markets, giving them legal status to work within the Turkish economy, which will, hopefully, lead to increased government revenues and new, formalised ventures by the new labour force.

The present-day war in Syria has completely depleted the economic resources of Syria, which has caused the burden to flow into Turkey, literally, by way of Syrian refugees, who have generally put an economic strain on the new host nation and its economic growth. Peaceful coexistence between individuals is very vital, especially in business environments. Due to progressive social changes, such as those of the regional cultures, tribes and religion, which allowed for the immigrants to more quickly integrate into Turkey, despite differentiated economic values, the social stability of Turkey was

impacted, which eventually made its way into business culture within Turkey. This, too, became a reason for decreased economic performance within the country.

The United Nations, as well as other humanitarian organisations, take these challenges as a burden as well, but their assistance in helping the Syrian immigrants has not really reduced the burden to the Turkish economy (İçduygu & Diker, 2017). This implies that the assistance needed is far greater than any one country can manage within the Southwest Asian region, and now the matter is urgent. The task for Turkey now is to sustain its economic growth while incorporating these new immigrants into its economic fold. Otherwise, the country will continue to struggle with resources. One positive, from a Turkish perspective, is that some of the neighbouring countries have also taken on part of the burden, since the Syrian refugees also flee to countries beyond Turkey. However, given Turkey's geographic positioning, as well as its relative economic strength in comparison to those countries it neighbours, it is still bearing the greatest number of the refugees.

The capital investment within Turkey is a variable that has been noted to have considerable measurement potential with respect to the economic development of Turkey. With more immigrants in the country, the levels of capital investments may decrease, which may pose a negative effect on the economic growth and development of Turkey. Considering both capital investments and unemployment levels lie within the same model, effects are observed, and the growth is either affected positively or negatively depending on the levels of these attributes. When the trade attributes are considered in the model, together with the refugees and capital investments, a significant amount of variation is observed implying that these factors immensely influence the unemployment levels and the general economic growth and development

of Turkey. The aspect of wage change is also very vital in this analysis, with respect to capital investment and the consumer price index in reference to the unemployment rates in Turkey. In this, all these factors are attributable to the low or high economic growth rate, depending on their respective levels.

This study shows that the problems facing both Syria and Turkey need to be alleviated with realistic recommendations. The government should accept the immigrants and incorporate them into the job markets by creating more investments and opportunities that cater to both Turkish citizens and the immigrants. This will reduce the challenge of the high workforce with low employment opportunities and wages. The Turkish government should encourage more foreign investors and it should be involved in more economic activities that will promote the general economic growth of Turkey. The non-governmental organisations, such as the United Nations, should become more aggressive in their support and provide aid to all countries affected by immigrants originating from the war zones.

The Factors that caused the war at the very beginning, such as high unemployment levels, poverty among some marginalised groups in the country and unequal distribution of resources Carpenter (2013), should be addressed in order to satisfy the interest of every Syrian citizen, which would promote a peaceful coexistence between the citizens and the neighbouring countries in both times of peace and civil unrest. The other countries neighbouring Syria, apart from Turkey, should assist a large percentage of the immigrants, eventually reducing the disproportional burden imposed on Turkey. In this, these countries could show support by providing financial aid that can help assist in improving the living and health standards of the immigrants in neighbouring countries. Moreover, the immigrants should be taught how to navigate

across the customs of the cultures to which they sought refuge. This will help to make them realise that the differences among themselves as Syrians and how they can better integrate into a new life during these war-torn years.

As observed from this study, it is very possible to curb the constraints facing Syria and the economic turmoil the neighbouring countries, especially Turkey, are facing. As recommended in this study, immense funding should be allocated to these counties facing these challenges, so that general development, regardless of social, political or religious orientation, can commence. To minimise these conflicts, it is also proposed that the current governmental officials of Syria, and all the warring groups, should step down and stand in one voice of peace and understanding among all the groups in the country, which would reduce the burden that the Syrian citizens have been dealt.

The host countries should also embrace talents and knowledge from the immigrant populations, and they should do more to incorporate them into their labour forces. This will, eventually, cause new products to enter the respective markets and it will inspire greater creativity and innovativeness within the region, which will have a generally positive impact on the economic growth of all such host countries. This can be a true source of motivation to all of the refugees, since they can see that they have a capability to change and transform not just their own lives, but also the world, through their individual economic contributions to the production of goods and services.

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