

# Impact of Conflict on Economic Growth: The Syrian Case

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## ABSTRACT

Since the end of the Second World War, there has been a steady rise in the number of civil wars. They have become much more common than international war, affecting close to one quarter of all countries in the world by the mid-1990s. Conflict continues to exist as a threat to various modern economies. It directly affects the economic growth and creates a perpetual trap of weak state officials, stagnated economy and citizens with hopelessness.

As a result, in the modern world, developed countries around the world have started quantifying 'conflict' in order to devise models that can explain its effects on crucial economic variable. In this paper, one such measure of conflict has been used to conduct a cross sectional analysis of countries with economic growth as the dependent variable. The paper considers five possible dimensions of risks and checks the statistical significance of each on the economic growth of a country. We establish that based on empirical analysis, there exists a negative relationship between growth and conflict.

### 1 Introduction

All societies have conflict, it is inherent to politics. (Collier, 2007) Some of them are stuck in a pattern of violent internal challenges to government. While, some experience prolonged unrest in the form of civil war, whereas sometimes it is all over swiftly, a coup d'état. Intra state wars have increased compared to interstate wars since the Second World War and are now a predominant form of conflict. Since, conflict is such an inherent part of economies, it is important to estimate its impact on prolonged economic growth.

One of the biggest multi-sided armed conflict is in Syria which has been going on for almost seven years. The crisis in Syria has been described as the worst humanitarian disaster since the end of the cold war. The estimates of the true magnitude of the tragedy are available, but the high numbers of casualties and displacement of more than half the people, leave no doubt that Syrians are facing one of the worst internal wars in Middle Eastern history. Syria was a fast-growing middle-income country prior to the conflict, but non-reliant political institutions along with prevalence of ethnic rebel groups created the traps of turmoil. The conflict has eventually led to severe extensive physical damage, disruption of economic networks, loss of human lives and demographic displacement. Apart from the loss of tangible and intangible assets, the civil war has also left deep and dark marks on the country's social fabric, culture and collective memories. The paper will aim to cover the consequences of the war along with an estimation of the impact of the crisis considering various economic and social factors.

## 2. Literature Review

### 2.1 Relationship between conflict and growth explained

In recent years, there has been a substantial increase in the rigorous research and evidence on the costs and consequences of armed conflict. Accurately estimating this cost is hard: the very existence of conflict disrupts the measurement of economic activity. Most of the costs of the civil war, perhaps as much as half, accrue after the war is over.

Violent conflicts have economic causes and economic consequences. In addition to the lost lives, injuries and the overall scale of human suffering that conflicts create, they also destroy assets and institutions. The consequences, the intensities of conflicts and their linkages with human endeavours to protect people from critical threats are not only a major national, but also an international developmental challenge. (Bharti, 2015). It has also been established that civil wars tend to reduce growth by around 2.3 percent per year, so the typical seven-year civil war leaves a country around 15 percent poorer than what it would have been (Collier, 2007). A conflict may also lead to a lower level of desired capital in a country. This is because the declined rate of return on capital lowers through unstable conditions and creates a new optimum capital stock. Whereas the desired amount of capital declines very quickly, the actual capital stock declines slower. While some capital can be removed from an economy very quickly some is less mobile and it takes time for it to adjust to the new optimum level (Hemer, 2010) Given the assumptions that military spending is suboptimal and that military spending increases during periods of conflict, i.e. that it decreases after a conflict, there is reason to believe that a shift of expenditures could earn a country a substantial “peace dividend”. Wijeweera and Webb (2010), argue that the short run effect of non-military spending can be as much as four times higher than that of military spending.

### 2.2 The Syrian Economy before the conflict

On the eve of 2011 unrest, Syria was a fast growing, lower middle-income country. Gross domestic product (GDP) grew at an average of 4.3 percent per year from 2000 to 2010 in real terms, which was almost entirely driven by growth in non-oil sectors, and inflation averaged at a reasonable 4.9 percent. Foreign direct investment was at about 1.3 percent of GDP on average during 2000–09, focusing on pharmaceuticals, food processing, and textiles (UNOCA, 2016-2017). However, unemployment was highest among the youth at 22% in 2007. The high growth performance in income did not translate into broad political inclusion and civil liberties. In the Doing Business indicators, Syria ranked 137 out of 181 countries, performing poorly on registration property and access to finance. All of these issues were contributed by the corrupt and unaccountable government of Syria. (Kostial, 2016) Civil war is likely to break out in mediocre income countries with weak state officials, stagnated economy and citizens with hopelessness.

### 2.3 Conflict consequences: changes in social and physical landscapes

The Syrian Centre for Policy Research had estimated that the cost of lost of physical capital amount to 230 percent of the pre-war GDP. (Seeberg, 2017) The most striking impact of the crisis is on displacement, with a third of the population – over six million people – internally displaced in 2016. Displacements have aggravated the rural urban outmigration trend that was already present before the crisis. Less than 70 percent of the 2011 rural population still lived in rural areas in 2016 (4.7 million residents and 2 million internally displaced people), while the urban population slightly increased between 2011 and 2016.

### 2.4 Economic Impact

The Syrian GDP in 2010 was one fourth of the total losses in GDP between 2011 and 2016. Estimates of counterfactual GDP numbers by using statistical estimation methods, show that the actual GDP fell \$51

billion short of the counterfactual GDP in 2016. Aggregating these differences between counterfactual and actual GDP numbers between 2011 and 2016 shows that the cumulative loss in GDP amounts to \$226 billion in 2010 prices, about four times the 2010 GDP. (World Bank, 2017).

The oil GDP declined by 93 percent during 2015 and non-oil economy contracted by 52 percent due to the severe destruction of infrastructure, reduced access to fuel and electricity, low business confidence, and disruption of trade. Conflict-related disruptions and international sanctions reduced Syrian exports by 92 percent between 2011 and 2015. In response to this shortfall, government spending was cut back (especially capital expenditures), but these measures were not enough to offset the fall in revenues. As a result, gross public debt rose from 30 percent of GDP in 2010 to a staggering 150 percent of GDP in 2015. Since the onset of the war, jobs were destroyed at an estimated rate of approximately 538,000 per year on average between 2010 and 2015, adding 482,000 people to the unemployment pool every year. More than three in four Syrians of working age are not involved in any economic value generation: 2.9 million of them are unemployed and 6.1 million are inactive. Unemployment among youth reached 78 percent in 2015.

Around 75 percent of rural population in Syria depend on agriculture for their subsistence and more than a third depend on their own production for over a quarter of their food requirements. Between 2010 and 2016, index of food prices increased by 800 per cent resulting in 90 percent of households spending half of their incomes on food. Total amount of damage of crops and loss in crop production was estimated to be USD 7.2 billion. Some 30 percent of resident households interviewed had stopped crop production entirely due to high prices of inputs and insecurity. (FAO, 2017).

### **2.5 Estimation of the Economic Impact**

As mentioned earlier, it is clear that impact of conflict is multidimensional affecting each possible sector of the economy in a direct or an indirect way. It is therefore important to evaluate the most important channel that delivers the impact of conflict on the Syrian economy. As per the World Bank report (2017), the factors that were influenced by the war are: casualties, forced displacement, physical destruction, limitations on the mobility of goods and people, and a vast amount of foregone opportunities. The report used the simulation diagram that showed the relationship of growth through labour and capital variables pre and post conflict. This model hypothesizes that post conflict: capital depreciates at a higher rate, network links of capital and labour run at a lower rate, and emigration is at a higher rate.

For instance, Davis and Weinstein (2002) showed that the Japanese cities that were bombed during World War II reached their pre-conflict relative sizes vis-à-vis other cities in about 20 years after the end of the war. In comparison, post-conflict recovery is much slower in countries with a high risk of resurgence in violence. Simulations also showed that about 2.5 million out-migrants of 3.5 million in the baseline can be attributed to casualty-related factors alone.

### **3. Research Objective**

This paper will first aim to estimate the overall significant impact of potential conflict on economic growth through a cross country analysis. For deeper analysis, the paper will also look at impact of conflict in Syria which has been crumbling in war for almost seven years. It will involve mathematical estimation of the impact of war on the Syrian economic growth by taking some crucial variables in consideration. The paper will also cover the pre-war conditions of Syria along with the impact of the crisis on the economy and livelihoods in Syria.

#### 4. METHODOLOGY

The first part of the paper would involve a simple linear regression model involving conflict index and economic growth. The main purpose of running this regression at the initial stage of the paper is to establish and estimate the significant negative impact of potential conflict on economic growth in economies. This regression will be based on cross section data available on UNDP (United Nations Development Programme) website along with Global Conflict Risk Index (published by the European Commission) which creates an index of the statistical risk of violence in the next one to four years in an economy. The variables that cover the various dimensions of risk are: Political, Security, Social, Economic, Geographic risk. The countries chosen for running the regression are chosen randomly and the names of the same are mentioned as follows:

Afghanistan	Congo	Iraq	Malaysia	Sierra Leone
Angola	Colombia	Israel	Namibia	El Salvador
Albania	Comoros	Jamaica	Niger	Somalia
United Arab Emirates	Costa Rica	Jordan	Nigeria	Serbia
Argentina	Cuba	Japan	Nicaragua	South Sudan
Armenia	Djibouti	Kazakhstan	Norway	Suriname
Australia	Dominican Republic	Kenya	Nepal	Syria
Azerbaijan	Algeria	Cambodia	New Zealand	Chad
Burundi	Ecuador	Kuwait	Oman	Togo
Benin	Eritrea	Lebanon	Pakistan	Thailand
Burkina Faso	Ethiopia	Liberia	Panama	Tajikistan
Bangladesh	Fiji	Libya	Peru	Turkmenistan
Bahrain	Gabon	Sri Lanka	Philippines	Timor-Leste
Bosnia	Georgia	Lesotho	Papua New Guinea	Trinidad
Belarus	Ghana	Morocco	Korea	Tunisia
Brazil	Guinea	Madagascar	Paraguay	Turkey
Bhutan	Guinea-Bissau	Mexico	Palestine	Uganda
Botswana	Equatorial Guinea	Mali	Qatar	Ukraine
Central African Republic	Guatemala	Myanmar	Russian Federation	Uruguay
Canada	Guyana	Montenegro	Rwanda	United States
Switzerland	Honduras	Mongolia	Saudi Arabia	Uzbekistan
Chile	Haiti	Mozambique	Sudan	Venezuela
China	Indonesia	Mauritania	Senegal	South Africa
Cote d'Ivoire	India	Mauritius	Singapore	Zambia
Cameroon	Iran	Malawi	Solomon Islands	Zimbabwe

The second part of the research will look at country specific data of Syria available on the country profiles of World Bank. The paper will use time series data of 56 years estimating the impact of arms imports, grants, unemployment etc. on growth. Few of the data points for latest four to five years couldn't be acquired by the official data source. Therefore, the missing data points have been found through individual reports published by the World Bank and International Organization of Migration website. A multiple variate linear regression model has been formed, (using time as a cross-section), after checking for stationarity of the variables, taking economic growth as our main regress and. The explanatory variables used for analysis are: Oil Production, Unemployment Rate, Technical Cooperation Grants, Arms Imports and Conflict. Proposed hypothesis:

*H1: There is a positive relationship between the unemployment and economic growth*

*H2: There is a positive relationship between the Arms Imports and economic growth*

*H3: There is a positive relationship between the technical grants and economic growth*

## 5. DATAANALYSIS

### 5.1 Global Conflict Index and Economic Growth

Empirical growth models estimate how changes in a country's physical and human capital as well as technology enhance GNP per capita. As the growth literature keeps on evolving, political scientists have started to apply quantitative methods to classify and measure political interactions including interstate and intrastate wars (Soloman W. Polachek, 2010). The Global Conflict Risk Index (GCRI), created by the European Commission's Joint Research Centre (EC JRC), is an index of the statistical risk of violent conflict in the next 1-4 years for each country in the world. The GCRI is calculated using 24 crucial variables that contribute across five dimensions (Halkia Matina, 2018):

- i. Political (Regime Type, Lack of Democracy, Government Effectiveness, Level of Repression, Empowerment Rights);
- ii. Security (Recent Internal Conflict, Neighbours with Highly Violent Conflict, Years since Highly Violent Conflict);
- iii. Social (Corruption, Ethnic Power Change, Ethnic Compilation, Transnational Ethnic Bonds, Homicide Rate, Infant Mortality);
- iv. Economy (GDP per Capita, Income Inequality, Openness, Food Security, Unemployment);
- v. Geography and Environment (Water Stress, Oil Production, Structural Constraints, Population Size, Youth Bulge).

Relying on a statistical model and historical data that includes the above variables, it assesses the level and likelihood of future conflicts.

In the model, we have taken into factor these five possible dimensional risks that are possible to occur in a country. We have taken simple arithmetic mean of each of the corresponding variables to calculate the conflict risk value arising due to political, security, social, economic and geographic reasons. The values of each of the risk index is between 0 and 10. With a sample data of 125 countries for the year 2013, we have tried to establish the relationship between growth and conflict. The hypothesis that we are testing with this data is as follows:

- i. With each of the conflict risk variable, we expect the beta coefficient to be negative. This means that with a rise in possibility of conflict, growth in the economy should reduce.

- ii. It is expected that coefficient of risk for security should be the highest. The security coefficient of conflict directly represents a situation of civil war which disrupts economy the most.
- iii. There is a possibility of multicollinearity among factors as risk in any of the factors will automatically lead to added risk any other factor.

### Model and Results

Since the value of index is restricted between 0 and 10, we have standardized all x variables for easier analysis and to increase the range of the variable. The regression model so used is as follows:

$$\begin{aligned} \text{Economic.Growth}_i &= \alpha_1 + \beta_1 \text{Political.Risk}_i + \beta_2 \text{Economic.Risk}_i + \beta_3 \text{Social.Risk}_i \\ &+ \beta_4 \text{Security.Risk}_i + \beta_5 \text{Geographical.Risk}_i + \mu_i \end{aligned}$$

Here,  $i=1$  to 125, where each cross section is represented by a country. Also, it is important to note that each x variable has been standardized. The y variable that is the growth is measures in percentage terms. The result of the above regression model is as follows:

Table 1: Regression output

Coefficient	Estimate	p value
$\alpha_1$	3.7675	0.00
$\beta_1$	-1.7013	0.01
$\beta_2$	-0.8519	0.18
$\beta_3$	-1.7963	0.01
$\beta_4$	-1.6006	0.03
$\beta_5$	2.1519	0.00

F stat: 4.12

p value: 0.00

Without any risk of conflict, on average, there exists growth of 3.76% in any country. One standard deviation increase in any political risk (such as lack of democracy or government ineffectiveness) will reduce growth by 1.7%. Similarly, standard deviation increases in any type of social risk such as corruption or infant mortality rate, will reduce growth by 1.79 %. Standard deviation increase in risk of internal conflicts will reduce growth by 1.6%. Increase in geographical risk, will increase growth by 2.15%. The p value of the F test was 0.001218 which confirms statistical significance of the model. The  $R^2$  value of the model is low due to many other factors affecting growth of an economy. As expected, all the beta coefficient values are negative except geographical risk. For all other types of risk, it can be seen that any increase in conflict risk will definitely reduce growth. To our surprise, the geographical risk factor showed a positive coefficient with significance. While analysing the data, it was observed that on average geographical risk index given to each country was almost 5, highest among all the other risks. A large proportion of fast-growing countries also had a rating of 6 to 7 in terms of geographical risks which is given due to structural constraints and population size. An example of the same can be India which has a geographical risk rating of 6 due to the issue of youth bulge (low infant mortality rate and high fertility rate), population size and numerous structural constraints.

However, growth of India was as high as 6.7% in the year 2013. The coefficient of security risk is not highest of the all. The sign of the risk is negative as well as significant at 5 per cent level of significance.

In general, one would expect multicollinearity among the risk factors. For example, an increase in risk of internal conflict can cause economic risks such as income inequality, low GDP per capita etc. to also emerge. Using the Variance Inflating Factor (VIF) statistic calculated by the R software, following results were generated:

Table 2 : VIF Values

Political.Risk	Security.Risk	Social.Risk	Economic.Risk	Geo.Risk
1.89	1.76	1.83	1.51	1.922

After checking for the VIF values, it can be seen that all the values are less than 5 and 10. Therefore, the variance inflating values are low and multicollinearity does not exist. This could be due to independent calculation of risk values for each dimension by our data source i.e. European Commission. A correlation matrix has also been included below. It shows that correlation till 0.5 exists among the variables but it may not be statistically significant in the model, resulting in a low VIF statistic.

Table 3 : Correlation Matrix

	POLITICAL	SECURITY	SOCIAL	ECONOMY	GEO & ENV
POLITICAL	1				
SECURITY	0.567229237	1			
SOCIAL	0.475273808	0.491728983	1		
ECONOMY	0.36367368	0.261530229	0.554432353	1	
GEO & ENV	0.610504677	0.571369226	0.499399058	0.413954511	1

### 5.2 Impact of War in the Syrian Economy

The economic effects of civil war often last well beyond the conflict period and can spill over to other countries. These effects include shocks to employment and investment, large outflows of refugees, and reductions in health and schooling levels. In the bigger picture, conflict affects every possible economic variable: economic growth, trade, consumption, expenditure, savings, business cycles, production etc. These variables that have been majorly impacted due to war are as follows:

**Economic Growth-** This value has been taken in percentage terms and has been directly retrieved from the official site of World Bank. This variable will work as our dependent variable.

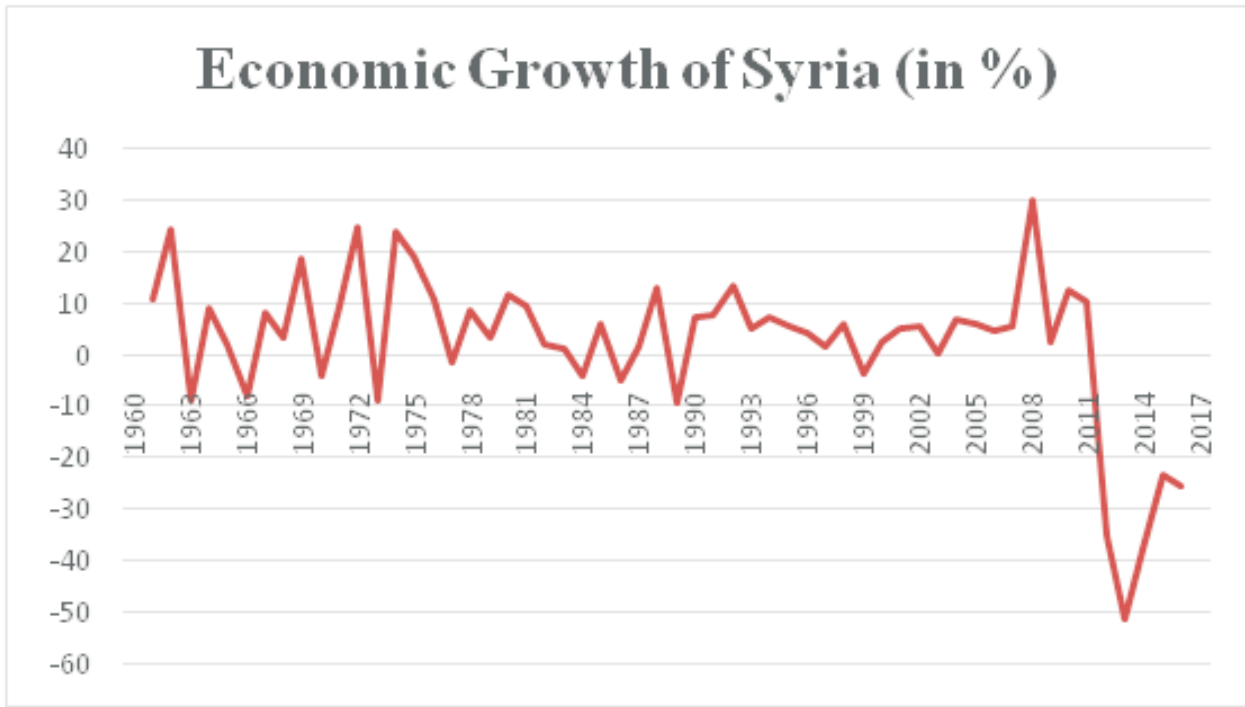


Figure 1 : Economic Growth of Syria, Source: World Bank

**Unemployment Rate:** Preliminary calculations by Hamilton and Nguyen (2017) show that the combined effects of casualties, forced dispersion, and reduced investments in human capital formation could add up to a 30 percent permanent loss in the country's human capital stock (compared with the 2010 stock). Apart from loss of employment, decline in population rate in terms of negative net migration rate is almost -43%.

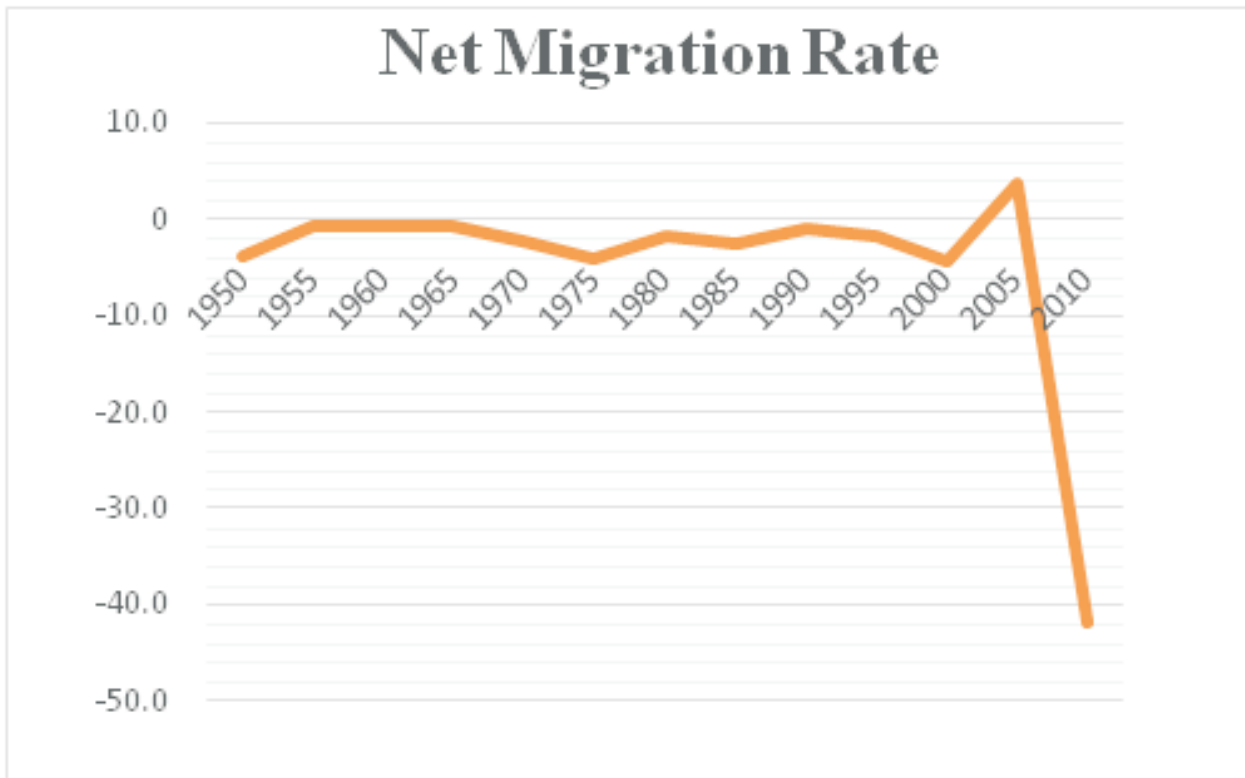


Figure 2: Net Migration Rate, Source: IOM



In 2016, from an estimated pre-war population of 22 million, the United Nations (UN) identified 13.5 million Syrians requiring humanitarian assistance, of which more than 6 million are internally displaced within Syria, and around 5 million are refugees outside of Syria. Overall, the unemployment rate increased from 8.6 percent in 2010 to a disastrous 52.9 percent in 2015, a 44.3 percentage point change. In conclusion, unemployment increased after the period of conflict. *As a result, in our hypothesis, we expect a negative and a high beta coefficient between unemployment and economic growth.* In our sample data, we have included unemployment in percentage terms in the time period starting from 1991 and ending in 2017. The plotted graph of unemployment rate with time is as follows:

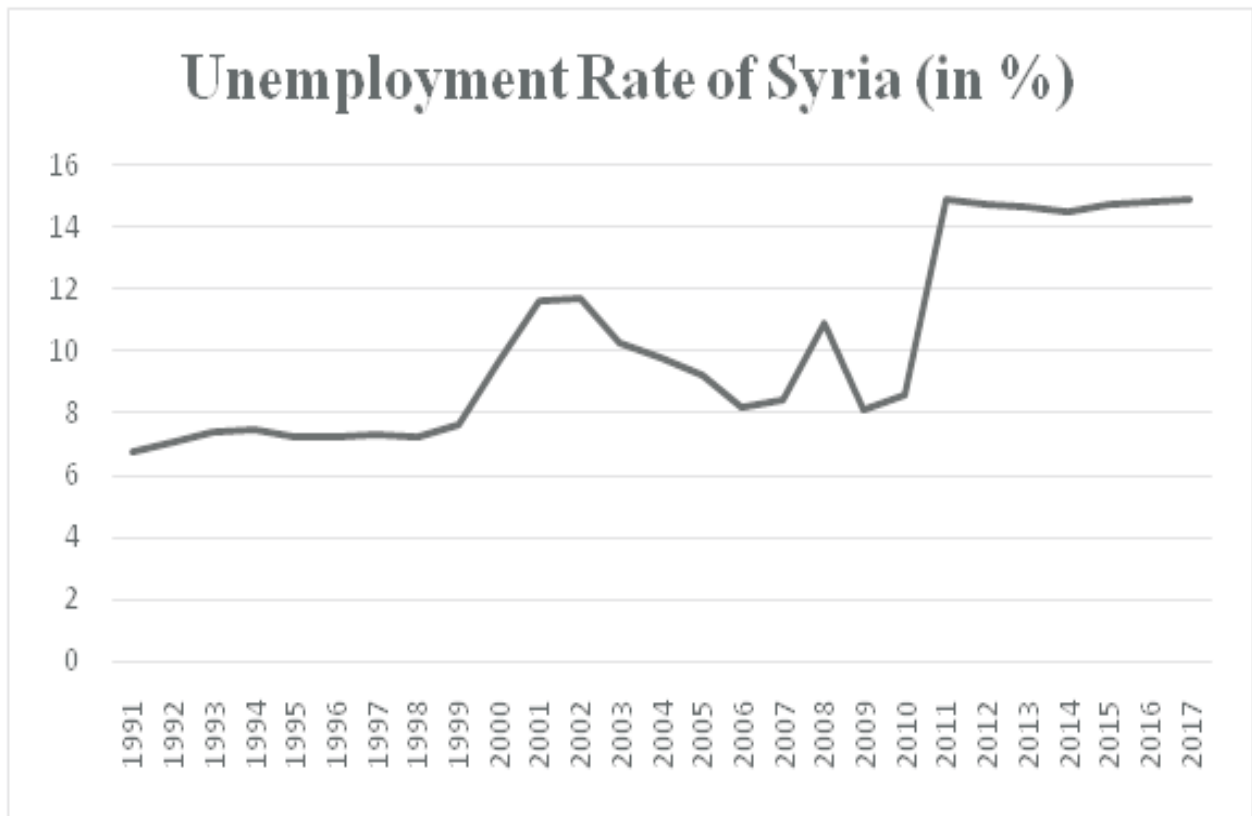


Figure 3 : Unemployment Rate (in %), Source: UNDP Data

**Oil Production:** In our sample data, this variable has been obtained from The U.S. Energy Information Administration for Syria for the year 1980 to 2016. Syria's energy sector has deteriorated since March 2011 with oil and natural gas production declining dramatically. Syria's energy sector has encountered several challenges as a result of the conflict and subsequent sanctions imposed by the United States and the European Union.

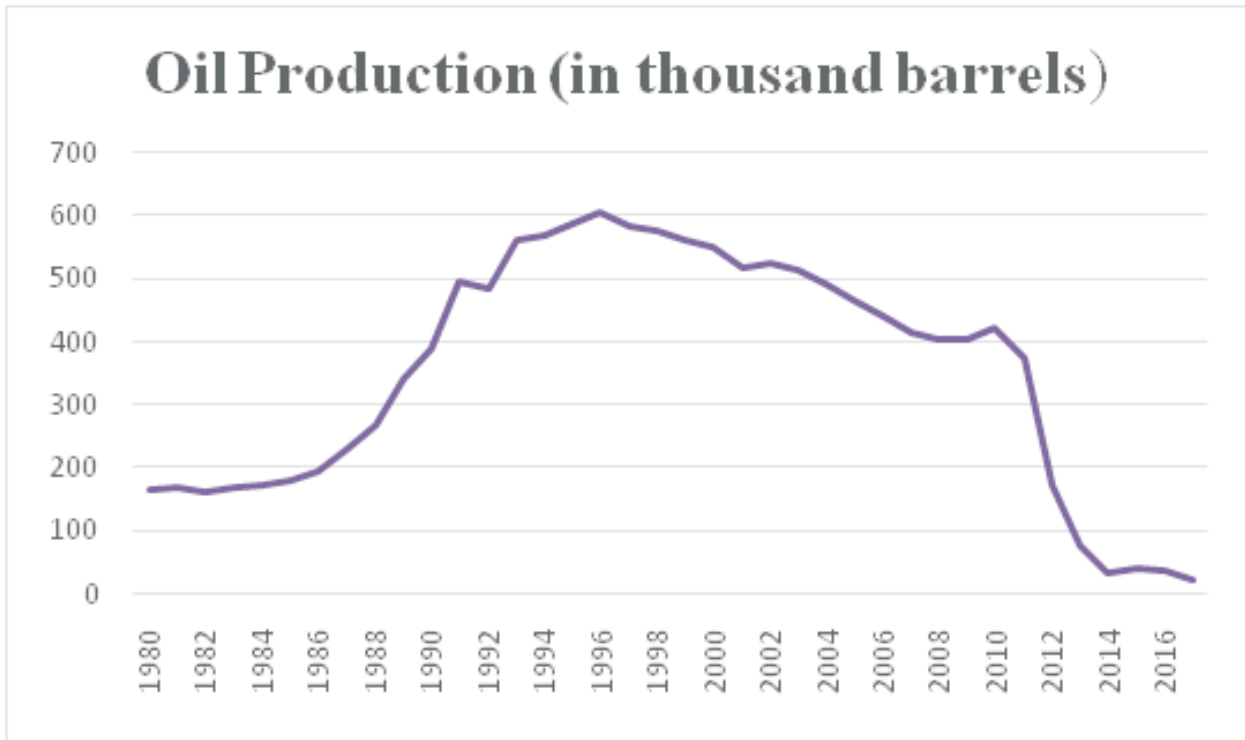
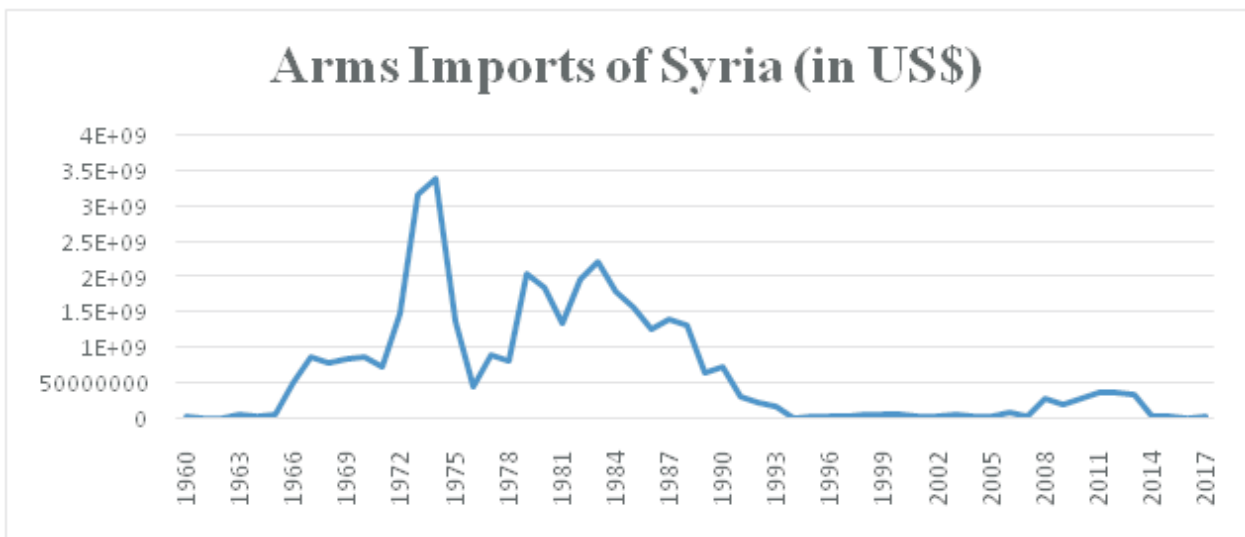


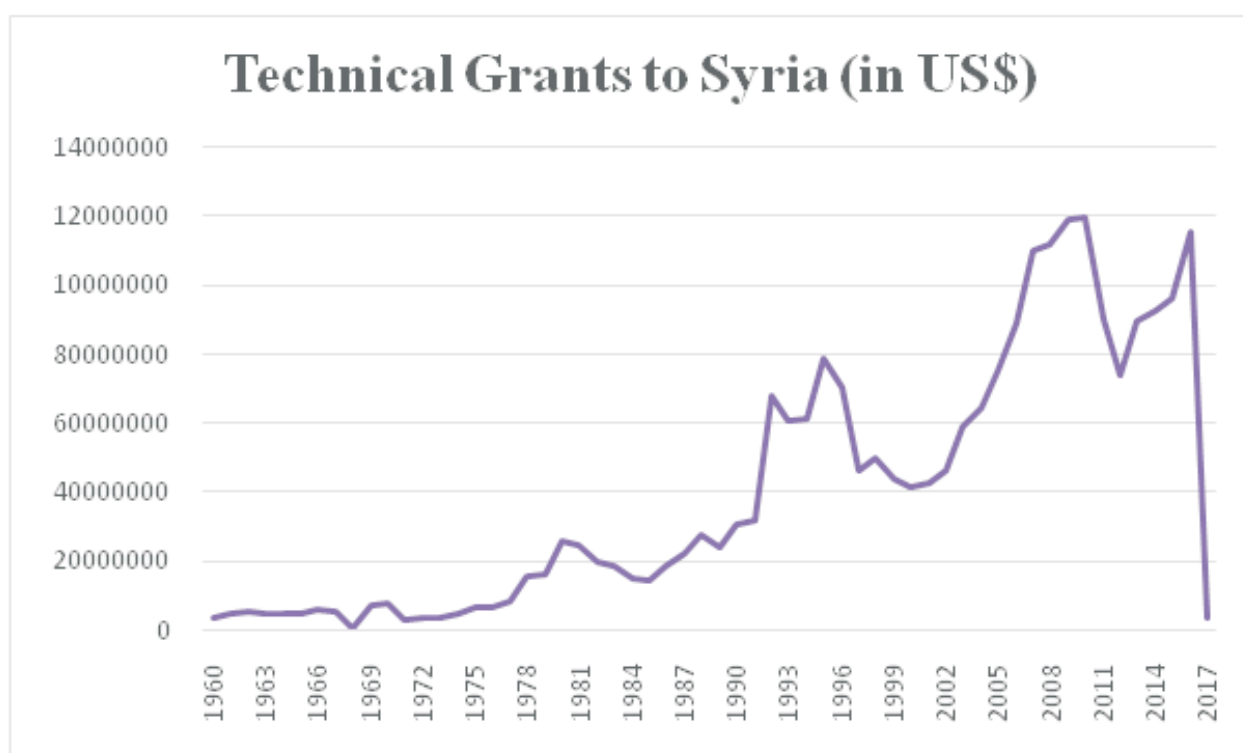
Figure 4 : Oil Production in Syria, Source: US Energy Information Administrative

In the above graph, it can be clearly observed that post 2011, oil production has declined drastically and continue to fall in the years of conflict. (Butter, 2015).

**Arms Imports:** According to the SCPR's 2015 study, the crisis left the Syrian economy exposed and dependent on imports, foreign funding, and aid. The ratio of exports to imports dropped sharply from 83 percent in 2010 to around 30 percent in 2014. The data shows a fluctuating trend pre and post conflict. *In general, we expect the beta coefficient of Arms Imports to be positive with economic growth.*



**Technical Cooperation Grants:** Technical Cooperation Grants play a major role of aid. In our sample data, the technical cooperation grants are calculated in US\$ at the balance of payment value. The United States, through USAID and the Department of State, continues to work through all possible channels to deliver aid to those in need in Syria, including through the United Nations, international and non-governmental organizations (NGOs), and local Syrian organizations. On September 27, 2016, the U.S. Government announced more than \$364 million dollars in additional humanitarian assistance for the Syria response, bringing the total U.S. Government assistance to nearly \$6 billion since 2011. The new funding will support the emergency relief activities on the UN and other humanitarian organizations, including the provision of emergency food, medicine, safe drinking water, and other relief supplies to conflict affected people in Syria and neighbouring countries. *In general, therefore our hypothesis is that there is a positive relationship between the technical grants and economic growth.*



**Conflict Dummy:** Using the same conflict index provided by the GCRI, average of only security dimension is taken to form a singular value for the conflict. This variable is converted into a dummy. All variables above the value 5, are given the value 1, and all other values have been given the value 0. 5 has been chosen as the cut off value because as per the data, all data points 5, reflect the situation of Civil War in the economy.

**Checking for the stationarity of the variables**

With the help of the plotted graphs, it can be clearly seen that most of the variables in our analysis are non-stationary. While dealing with time series data, it becomes important to test for stationarity of the variables before conducting our analysis. Most of the variables have large values, therefore for variables such as Arms Imports and Technical Grants, natural log has been taken. If the variables turn out be non-stationary, first differences are taken and then included in the model. The null hypothesis of the test is that the variables in check are stationary. Following are the results of the test including the original variable and its first differences :

Table 4: ADF Test Results

Variable	At level		At First Difference	
	Test Stat	p value	Test Stat	p value
Economic Growth	-2.77	0.07		
Oil Production	-1.53	0.47	-3.78	0.01
Unemployment Rate	0.36	0.97	-3.59	0.01
Technical Grants	0.21	0.96	-4.26	0.01
Arms Imports	-1.51	0.49	-3.3099	0.02

From the above table, it can be established that all our variables were non stationary at the initial level. Therefore, first differences of each variable are taken. Economic Growth has been kept as it is, because at the level 7% significance, it is stationary. Since, economic growth of ours is measured in %, all other variables have also been converted in percentage form. The summary of the measure of our variables are as follows:

Variable	Measured as
Economic Growth	% at current level
Technical Grants	(First difference of log values) * 100
Arms Imports	(First difference of log values) * 100
Unemployment (in %)	Only first difference
Energy Production	(First Difference) * 100
Conflict	Dummy Variable

**Model and Results**

To consider all the variables, the following model was used to estimate the impact of the above considered variables on the economic growth of the Syrian economy.

$$\begin{aligned}
 & \text{Economic.Growth}_t \\
 & = \alpha + \beta_1 \Delta \text{Tech.Grants}_t + \beta_2 \Delta \text{Arms.Imports}_t + \beta_3 \Delta \text{Unempl.Rate}_t \\
 & + \beta_4 \Delta \text{Oil.Production}_t + \beta_5 \text{Conflict} + \mu_t
 \end{aligned}$$

The results of the above regression model are as follows:

Table 5 : Regression Output 2

<b>Coefficient</b>	<b>Estimate</b>	<b>p value</b>
<b><math>\alpha</math></b>	5.520	0.00
<b><math>\beta_1</math></b>	0.0429	0.13
<b><math>\beta_2</math></b>	0.0047	0.76
<b><math>\beta_3</math></b>	-2.967	0.00
<b><math>\beta_4</math></b>	0.000401	0.04
<b><math>\beta_5</math></b>	-3.503	0.00

F stat: 14.89                      p value: 0.00

The above result shows the effect of the mentioned variables on economic growth (measured in terms of %). Without unemployment, conflict, arms import, grants and oil production, as per the model, on average growth in the economy will be at 5%. This intercept is at full level significance, highlighting that without any of these variables, growth in the economy will be high. Data also has been tested for multicollinearity, the VIF software showed all values below 10 due to which we rejected the possibility of correlation between the explanatory variables. The R square of our model is 0.59 which is sufficiently high.

As expected, we can see that conflict variable has a negative coefficient. This underlies the most important part of the research which states that conflict in the economy of Syria reduces the growth by 3 percent more than time period without any conflict. Therefore, it can be clearly seen that during the time period of war, the economic growth decreased by 3 % more than any other normal time period.

Arms Imports have a positive sign with the growth levels but the variable is insignificant. As mentioned earlier. It is also normal to believe that most of the data recorded may not be authentic due to the influence of countries like Russia and China supporting Syria in increasing arms and weapons. In order to show that technical grants increased during the periods of conflict and have a higher impact on growth, an interaction term of conflict dummy and technical grants was added in the model. However, the coefficient of this new term also came insignificant and due to which it was not added in the final model. Improper reporting of the technical grants during the last years of civil wars could be the reason of failed relationship between conflict, growth and technical grants.

Oil Production and economic growth show a positive association. A % increase in change of oil production can cause growth to increase on average by 0.0003%. It is important to establish the case that oil production lowered during the time of conflict. To check whether the change in oil production had a greater impact during the time of war, we constructed a dummy interaction term between the two. The coefficient of the interaction term in our result came insignificant showing that it did not have a greater effect in general at the time of conflict.

Otherwise, all signs are as per our hypothesis. We can see that a % increase in the change of unemployment rate, will reduce growth rate by 2.9% on average. This clearly shows the effect of unemployment over the years on growth. A really high significant beta coefficient can be contributed to the post war period, when unemployment was high as 14% and GDP falling by almost 23%. To check whether a % increase in change of unemployment had a greater effect on economic growth during the time of conflict, we estimated the following regression:

$$Economic.Growth_t = \alpha + \beta_1 \Delta Unempl. Rate_t + \beta_2 Conflict + \beta_3 \Delta Unempl. Rate * Conflict + \varepsilon_t$$

Table 6 Regression Output 3

Coefficient	Estimate	p value
<b>α</b>	6.180	0.00
<b>β1</b>	-1.148	0.29
<b>β2</b>	-39.850	0.00
<b>β3</b>	-5.277	0.00

F stat: 30.07

p value: 0.00

Here, in the above output, we can see that interaction term's coefficient is significant. This states that any % change in the unemployment rate during the time of conflict will reduce economic growth more than any time period without conflict.

### CONCLUSION

From our analysis, it can be established that conflict has a large significant impact on the growth of the economy. Any type of conflict can be either taken as a signal for an urgent stimulus, or can create a situation of a poverty limbo. Therefore, it is important for countries to act upon the conflict signals at the right time and target the correct policies in order to bail themselves out of the situation of perpetual war.

Clearly, it can be seen that the growth of the Syrian economy has taken a toll ever since the civil war broke out in the economy. Exact determinants of the same are hard to identify due to the lack of data availability and poor national statistics of the economy. However, as per our analysis, unemployment rate should be controlled by creating more formal sector jobs and creating a more safer work environment for the refugees that have returned back to the country. Moreover, even though grants increase the growth of the national income, it is important to channelize the aid in the right direct to bring back the investor's confidence and stimulate the multiplier effect. Most importantly, it is crucial to execute the peace negotiations with the developed countries and the non profitorganisation in order to remove the situation of government ineffectiveness.

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