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THE ECONOMIC COST OF TERRORISM IN IRAQ: PRELIMINARY ASSESSMENT

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ABSTRACT. The research aims to provide a preliminary estimate of the total costs incurred by Iraq from 2003 to the present, including estimating the costs of human losses in cash, which constitutes the first attempt to find a comprehensive estimate of the costs of terrorism and the war on it, and the opportunity costs of it. Although the task is not easy, as it requires a re-evaluation of capital and human assets and calculating their current values, the difficulties extend to calculating the upbringing costs of an Iraqi child until he reaches the age of 20, based on calculating the cost of living over the years. The results provide a preliminary estimate of the expenses incurred by Iraq due to terrorism during the past 19 years since 2003. It is an initial estimate as there are still some other unestimated costs whose estimation will raise the bill for confronting terrorism in Iraq. In total, the costs of terrorism in Iraq amounted to 1.435 trillion dollars, of which the human cost constitutes 65%, and the loss of gross domestic product is 23%. It could have been repurposed for uses that serve the trends of progress and development in the country, increase the welfare of its people, eliminate poverty and deprivation, and rise on the ladder of development progress.

JEL Classification: E50,
E51, E59

Keywords: Terrorism, Terrorism costs, Economic costs, ISIS

Introduction

Since 2003, terrorism has caused humanitarian, economic, political, and social crises. It has also imposed significant pressures on the state, and its institutions led to widespread economic stagnation that included all non-oil sectors, and helped consolidate economic distortions that were already present (Al-Yasiri, 2021b). The human cost has unquestionably been the most significant for Iraq, as shown by the total number of people killed due to terrorist attacks in Iraq totaled 209,169 between February 2003 and November 2021. Within the nation, terrorist groups such as Al-Qaeda and ISIS waged a bloody and immoral war against the government, which the country was forced to endure. This exacerbated the preexisting flaws as well as the structural flaws, which led to a decrease in productivity, which hampered efforts for

economic development, an increase in poverty and a lack of job opportunities, and the cessation of economic activity in some of the cities that were most severely impacted by terrorism (Bekheet, 2021). This forced the government to re-allocate non-security expenditures in a significant way, given the priority of the war against terrorism. The research aims to provide a preliminary estimate of the total costs incurred by Iraq from 2003 to the present day (A. H. Almagtome, Al-Yasiri, Ali, Kadhim, & Heider, 2020). This estimate will include the costs of human losses in cash. This constitutes the first attempt to find a comprehensive assessment of the costs of terrorism and the war on it, as well as its opportunity costs of it. Although it is not an easy task, as it requires a re-evaluation of capital and human assets and calculation of their current values, the difficulty extends to calculating the costs of upbringing an Iraqi child until he reaches the age of 20, based on estimates of the cost of living over the years (A. Almagtome, Khaghaany, & Önce, 2020). Although it is not an easy task, it requires re-evaluating capital and human assets and calculating their current values.

2006 was the year that was deemed to be the worst in terms of the number of casualties, with a total that reached 29,526 victims. 2007 came in second, with the number of victims going 26,112. Following the bombing of the military shrine in Samarra in February 2006, there has been a marked increase in the number of incidents of public unrest. This increase was followed by this rise. The number steadily increased after that to return before ISIS took control of Mosul, Anbar, and Salah al-Din in the middle of 2014, as the number reached 9,852 victims in 2013, then the number doubled (20,218 victims) in 2014, while the year 2021 is the least in terms of victims of terrorism, as the number reached Only 669 victims. The number of victims of terrorism has steadily increased since then to return before ISIS took control of Mosul, Anbar, and Salah There is a vast array of indirect human costs associated with terrorism, and as far as the type of costs is concerned, we refer to the costs resulting from the deterioration of individuals' livelihoods and their ability to escape poverty and deprivation.

Furthermore, since 2003, several estimates of poverty and deprivation in Iraq have appeared using various methodologies, illuminating aspects of the situation. These estimates have shown that the number of people living in poverty in Iraq has increased since 2003. However, it is impossible to count poverty as a direct result of terrorism, the redistribution of society's resources towards combating terrorism and addressing its effects, and the assumption that estimates of the poverty gap can be reached. This is different from what Iraqis suffer due to the succession of exceptional events, especially related to the deterioration of their living conditions throughout Iraq. Moreover, to estimate the amount of money required to get impoverished out of their state of poverty.

1. Literature review

The monetary values of the losses caused by terrorism are typically estimated using the same method as the economic cost of violence; Several studies presented the economic cost of death and morbidity resulting from violence using different methodologies, including:

- Cost accounting method, according to this method, the direct and indirect costs of terrorism are estimated, and it has been widely used in calculating the costs of crime in the world. These costs often include the overt and covert costs to victims, perpetrators, and public order, such as the expenses incurred by the court system and the costs incurred by medical professionals (McCollister, French, & Fang, 2010). The research using this methodology sought to assess the costs associated with each crime.
- "The price to avoid damage," which is dependent on an estimate of the price of "goods produced by violence," and is based on the assumption of an estimate of the cost of restoring the situation to the way it was before the damage occurred, or an estimate of the monetary

value of what the victims are willing to pay to avoid the injury; "The price to avoid damage" is referred to as "The price to avoid damage."

- The maximum price is based on assessing the appropriate compensation for the victim.
- Based on standard models, the econometric technique evaluates the effects and costs of various factors, such as gross domestic product, investment, and other factors.

It is linked to a direct relationship with it, as the costs rise with the high level of development. On the other hand, the volume of terrorist activities and their recurrence over time affect the expenses increase (Al-Wattar, Almagtome, & Al-Shafeay, 2019). The economic effects of terrorism vary depending on the levels of economic development achieved in the country, as it is linked to a direct relationship with it. The costs of terrorism are much lower in nations that are just sometimes or infrequently exposed to it than in countries like Iraq, which are becoming more vulnerable to its effects.

The impact on gross domestic product and its reduction as a result of the physical destruction of capital assets and the loss of economic activity, followed by a negative impact on economic growth and per capita output, which are all channels through which the effects of terrorism can be transmitted to the economy. These channels include:

- Terrorism raises the risks of foreign direct investment. Thus investors avoid nations with high levels of terrorist operations.
- Terrorism contributes to the disruption of financial markets and economic, commercial, and tourist activity, both inside the country and beyond its borders.

When calculating the financial toll terrorism has on people, society, and the state, economists often consider the direct and indirect costs associated with the phenomenon. Direct costs of terrorism include costs to victims and terrorists that can be measured in monetary terms. Indirect costs of terrorism, on the other hand, can consist of all impacts that do not have financial implications and include suffering, psychological effects, and deterioration in the quality of life. Indirect costs are often unpriced because they are not subject to market exchange, but direct prices of terrorism can include all these things (M. N. Ali, Almagtome, & Hameedi, 2019). These include the expenses associated with hospitalization, the loss of income, and the expenditures related to combating terrorism, such as increased spending on security, legal systems, and prisons. Other costs include the cost of sacrificing lives.

The direct costs of terrorist fatalities, injuries, and property damage are included in the overall economic effect of terrorism, as are the indirect costs of terrorist deaths, injuries, and property damage, as well as losses in terms of GDP. The victim, the offender, and the government all have direct financial responsibility for the expenses. Following a terrorist attack, indirect costs begin to pile up and include the current value of the long-term expenses that result from the attack, such as lost future income and physical and psychological damage. Indirect costs are incurred after a terrorist attack. These estimates are highly conservative because the methodology does not consider many factors. After all, it isn't easy to obtain globally comparable data. These factors include the decline in tourism, business activity, production, and investment, in addition to spending on counter-terrorism measures (Bardwell & Iqbal, 2021).

2. Methodology

To arrive at a comprehensive estimate of the economic consequences of terrorism in Iraq, the research uses more than one method to calculate the costs of terrorism in Iraq. After arriving at this estimate, they aggregate these costs, which include the following:

- Human losses due to terrorism with its critical appreciation.

- Material losses related to terrorism.
- Damages to development, including indirect costs to the GDP due to acts of terrorism.

3. Results

3.1. Direct Human Costs

Estimates of the number of fatalities in terrorist operations vary, but the "Iraq body count" website is the most thorough of all assessments. It is also the most recorded and complete when tracking the effects of violence and terrorism in Iraq (R. S. Ali, 2021). According to the information provided by the website, terrorism was responsible for the deaths of 209,242 persons between the years 2003 and 2021.

Table 1. Victims of terrorist attacks in Iraq 2003-2021

	January	February	March	Nissan	May	June	July	Water	September	October	November	December	Total
2003	3	2	3986	3448	545	597	646	833	566	515	487	524	12,152
2004	610	663	1004	1303	655	910	834	878	1042	1033	1676	1129	11,737
2005	1222	1297	905	1145	1396	1347	1536	2352	1444	1311	1487	1141	16,583
2006	1546	1579	1957	1805	2279	2594	3298	2865	2567	3041	3095	2900	29,526
2007	3035	2680	2728	2573	2854	2219	2702	2483	1391	1326	1124	997	26,112
2008	861	1093	1669	1317	915	755	640	704	612	594	540	586	10,286
2009	372	409	438	590	428	564	431	653	352	441	226	478	5,382
2010	267	305	336	385	387	385	488	520	254	315	307	218	4,167
2011	389	254	311	289	381	386	308	401	397	366	288	392	4,162
2012	531	356	377	392	304	529	469	422	400	290	253	299	4,622
2013	357	360	403	545	888	659	1145	1013	1306	1180	870	1126	9,852
2014	1097	972	1029	1037	1100	4088	1580	3340	1474	1738	1436	1327	20,218
2015	1490	1625	1105	2013	1295	1355	1845	1991	1445	1297	1021	1096	17,578
2016	1374	1258	1459	1192	1276	1405	1280	1375	935	1970	1738	1131	16,393
2017	1119	982	1918	1816	1871	1858	1498	597	490	397	346	291	13,183
2018	474	410	402	303	229	209	230	201	241	305	160	155	3,319
2019	323	271	123	140	167	130	145	93	151	361	274	215	2,393
2020	114	148	73	52	74	64	49	82	54	70	74	54	908
2021	64	56	49	66	49	46	87	60	41	65	23	63	669

It is important to note that the US-led coalition that invaded Iraq has been responsible for the deaths of more than 24,000 Iraqi civilians. Among the total victims are more than 10,000 children, more than 1,000 terrorists belonging to ISIS, and approximately 20,000 other terrorists who were killed during the occupation of Iraq. 2003-2011 (Al Jabouri & Al-Yasiri, 2022). 2006 was the year that was deemed to be the worst in terms of the number of casualties, with a total that reached 29,526 victims. 2007 came in second, with the number of victims getting 26,112. After the bombing of the holy shrine in Samarra in February 2006, there has been a marked increase in the number of incidents of public unrest. This rise followed this increase. The

number steadily increased after that to return before ISIS took control of Mosul, Anbar, and Salah al-Din in the middle of 2014, as the number reached 9,852 victims in 2013, then the number doubled (20,218 victims) in 2014, while the year 2021 is the least in terms of victims of terrorism, as the number reached Only 669 victims. The number of victims of terrorism had steadily increased since then return before ISIS took control of Mosul, Anbar, and Salah, Assuming that the cost of each individual is equivalent to the amount of money spent on that individual's upkeep until the age of 18, which was estimated in 2003 to be 35,350 thousand dollars and has since increased to 51,823 thousand dollars, the total cost of each individual in 2020 is projected to be 51,823 thousand dollars. This estimate is on the low side, and to put it in perspective, the exact cost of raising a human (with various It comes out to 324,000 dollars in the United Arab Emirates, 274.2 thousand dollars in the United Kingdom, and 225 thousand dollars in Canada and South Korea, but it falls to 87.2 thousand in Brazil, 72 thousand in India, and 27 thousand in China according to the technique of the calculation (Cordesman, 2018). According to figures provided by the USDA, the total cost for a family in the middle class to raise a child to the age of 18 is \$170,460 (Omer & Yeşiltaş, 2020). Even though numbers from the German Federal Statistical Office indicate estimates similar to that, which come to a total of 150,000 thousand euros, a kid requires until they become eighteen years old (166.5 thousand dollars).

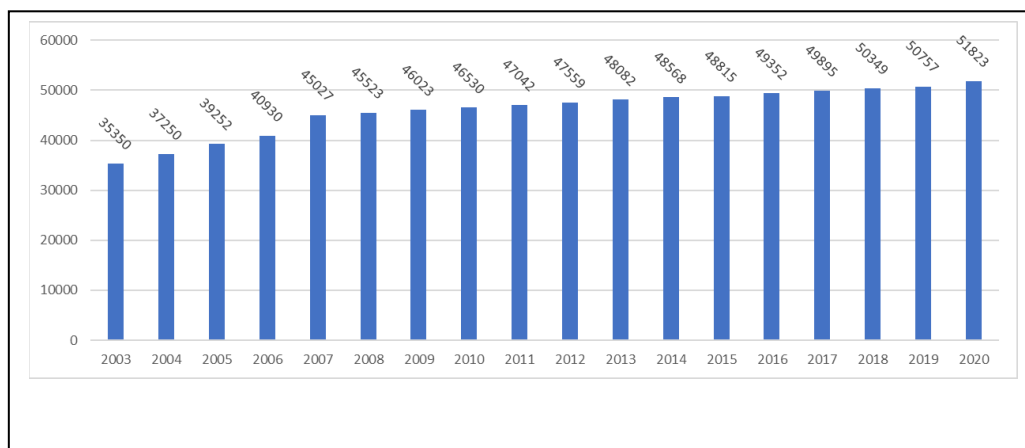


Figure 1. Average per capita cost for years 2003-2020

As a result, the yearly expenses of direct victims of terrorism were calculated, and the overall amount that was arrived at was \$934.35 billion, the highest cost among the other cost elements. The year 2006 was the year when this cost topped 120 billion dollars for the first time. Inadequate information was available about the types of injuries that were sustained as a result of terrorist operations; however, for estimation, we estimate that the number of injured people with injuries that lead to disability is estimated at half the number of victims; this means that there are more than 100,000 injured as a result of terrorist operations whose injuries lead to total or partial disability that prevents its owner from leading an everyday life. This number is expected to continue growing. Inadequate information was available about the number of people who

3.2. Indirect Human Costs

There is a vast array of indirect human costs associated with terrorism. Regarding the type of costs, we refer to the expenses resulting from the deterioration of individuals' livelihoods and their ability to escape poverty and deprivation. Furthermore, since 2003, several estimates of poverty and lack in Iraq have appeared using various methodologies, illuminating aspects of the situation. These estimates have shown that the number of people living in poverty in Iraq has increased since 2003. However, it is impossible to count poverty as a direct result of terrorism, the redistribution of society's resources towards combating terrorism and addressing its effects, and the assumption that estimates of the poverty gap can be reached. This is different from what Iraqis suffer due to the succession of exceptional events, especially related to the deterioration of their living conditions throughout Iraq. To estimate the amount of money required to get the impoverished out of their state of poverty.

Table 2. The poverty rate in Iraq from 2003-2021

Crisis	Poverty Assessment Year	Poverty rate (%)	Cost of poverty (annually)
American occupation	2007	22.4	\$6.628 billion
Post-American Occupation	2012	18.9	7.339
Double Crisis (ISIS and Low Oil Prices)	2014	22.5	8.733
Post-ISIS	2018	20.5	9.491
Compound crisis	2020	31.7	9.739

It has been assumed to estimate the cost of poverty in Iraq that this cost is determined by the value of spending that is required to raise the average spending of poor individuals to a level similar to that of non-poor individuals, that is, spending that places individuals just slightly above the poverty line. This assumption was made to calculate the cost of poverty in Iraq. However, due to the lack of a complete series covering all years, the researcher had to make assumptions about estimates of poverty that are not currently accessible. These assumptions were based on using the most recent lowest poverty rate. For the years 2007-2012, for instance, for which there are two different estimates of poverty, the poverty rate, followed by the spending percentage and then its smallest size, was selected to prevent overestimating the problem. Similarly, the poverty rate for 2018 was chosen as the base rate for the years 2020 and 2021. Consequently, a total estimate of the cost of poverty in Iraq from 2003-2020 was arrived at, totaling 143.76 billion dollars.

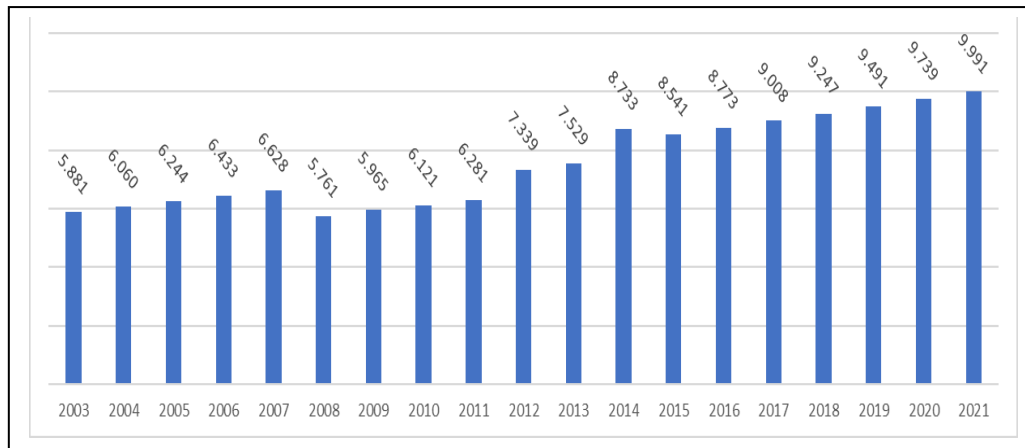


Figure 2. Cost of poverty 2003-2021 (\$1 billion)

The above cost estimate does not cover the other invisible poverty-related costs. These costs are related to health, education, living conditions, deprivation, etc. Therefore, it is necessary to use alternative estimates to estimate how much they cost society.

3.3. Direct Physical Costs

In 2019, it was anticipated that terrorism would have an economic effect of \$26.4 billion worldwide. This represents a decrease of 25% compared to the previous year's total. The decline in the number of terrorist attacks that have taken place in Iraq, Nigeria, Pakistan, and Syria is primarily responsible for the progress that has been made over the last four years. As a result of the magnitude of the destruction that ISIS has wreaked in Iraq and Syria, these expenditures have reached an all-time high of 116 billion dollars since they peaked in 2014 (Bardwell & Iqbal, 2021). However, the researcher has adopted alternative estimates using the same methodologies, modifying some assumptions to be more appropriate to the reality of Iraq. Most of the time, the costs of violence or terrorism are estimated in the output as a loss percentage of the gross domestic product. The most recent studies have been conducted to evaluate the costs of terrorism in 25 countries, including Iraq.

Table 3. Estimates of GDP loss in Iraq 2003-2020

	GDP	Loss of output (%)	Output losses (\$1 billion)
2003	21921569478.8	4.46	0.978
2004	36627901762.1	12.37	4.531
2005	49954890353.3	14.98	7.483
2006	65140147197.1	19.74	12.859
2007	88837055195.3	25.09	22.289
2008	131614433712.2	10.38	13.662
2009	111657581662.4	10.81	12.070
2010	138516722649.6	8.24	11.414
2011	185749664444.4	7.19	13.355
2012	218002481737.7	8.43	18.378
2013	234637675128.6	18.87	44.276
2014	228415656175.0	27.18	62.083
2015	166774109673.7	17.87	29.803

2016	166602488747.9	23.58	39.285
2017	187217660050.7	10.97	20.538
2018	227367469034.0	4.22	9.595
2019	235097182233.5	3.22	7.570
2020	166756984396.0	2.38	3.975
Total losses			334.143

3.4. Displacement Costs

Iraqis have been subjected to waves of relocation owing to the previous administration's reprisals during the Iraq invasion in 2003. In 2007, there were an estimated 60,000 Iraqis who were compelled to leave their homes each month, contributing to the estimated total of 2.5 million individuals who were displaced inside Iraq. However, due to improvements in the security situation, the number of people being forced to flee their homes decreased in 2008, and this trend persisted until 2012. Then, in 2014, it increased significantly due to the terrorist organization known as ISIS and the military operations that took place in several different governorates. Late in 2014, around 900,000 people were forced to abandon their homes due to the expansion of ISIS's authority over the governorates of Nineveh and Diyala.

On the other hand, only a half million Christian residents have deserted the city of Mosul. There were around 200,000 Yazidis who were forced from their homes, while 90 percent of Tal Afar's Shiite Turkmen community fled the city (Cotter, 2019). According to the Displacement Tracking Matrix (DTM) developed by the International Organization for Migration, the total number of persons forced from their homes in Iraq has reached 6.138 million, of whom 1,186 will continue to be displaced until the end of 2021 (Bardwell & Iqbal, 2021). Rough calculations suggest that the expenditures associated with displaced people in Iraq will equal 20 billion dollars between 2009 and 2020 (M. A. Ali & Al-Yasiri, 2021). In contrast, Iraq's Minister of Planning has claimed that the country needs 34 trillion dinars (23.129 billion dollars) to end the catastrophe of displaced people (Al-Yasiri, 2021a).

3.5. The Total Costs

During the 19 years that have passed since 2003, a preliminary estimate of the costs Iraq has incurred due to terrorism has been reached. This estimate is only an initial estimate because there are still some other costs that have not been estimated, the estimation of which will increase the cost of combating terrorism in Iraq. The loss of gross domestic product accounted for 23 percent of the expenses caused by terrorism in Iraq, reaching a total of 1.43 trillion dollars. The human cost accounted for 65 percent of these total expenditures. It might have been repurposed for purposes that serve the tendencies of growth and development in the nation, raise the welfare of the country's people, remove poverty and deprivation, and move the country up the ladder of development progress.

Table 4. Total estimated costs of terrorism in Iraq 2003-2020

Costs	Billion dollars	Percentage
Direct human cost (victims of terrorism)	934.35	65.1
Displacement costs	23.129	10.0
Loss of GDP	334.143	23.3
Indirect cost (poverty)	143.764	1.6

Total costs	1435.386	100.0
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Conclusion

The research aims to provide a preliminary estimate of the total costs incurred by Iraq from 2003 to the present day. This estimate will include the costs of human losses in cash. This constitutes the first attempt to find a comprehensive assessment of the costs of terrorism, the war on it, as well as its opportunity costs of it. Although it is not an easy task, as it requires a re-evaluation of capital and human assets and calculation of their current values, the difficulty extends to calculating the costs of upbringing an Iraqi child until he reaches the age of 20, based on estimates of the cost of living over the years. However, it is not easy, as it requires re-evaluating capital and human assets and calculating their current values. These estimates represent a preliminary attempt to estimate the total costs incurred by Iraq from 2003 until the present day as a direct result of the ongoing war on terrorism. These costs are exorbitant and constitute a net loss of opportunities for growth and prosperity that could have placed the country and society in a different stage of development and economic position. It is possible to count the method that adopted an alternative approach, as the calculation focused on the opportunity cost, particularly in estimating the costs of poverty and the human cost of victims of violence. The researcher has used more than one method to estimate the costs of terrorism to find alternatives to the lack of data. The research suggests conducting additional studies that are both more in-depth and more comprehensive to cover the aspects whose costs could not be estimated. These include unemployment, corruption, foreign investment, and non-oil economic activities such as tourism and transportation. The findings estimate Iraq's costs incurred due to terrorism over the past 19 years since 2003. It is important to note that this is only an initial estimate because there are still some other costs that have not been estimated. Their estimation will cause the price of combating terrorism in Iraq to rise. The loss of gross domestic product accounted for 23 percent of the expenses caused by terrorism in Iraq, reaching a total of 1.43 trillion dollars. The human cost accounted for 65 percent of these total expenditures. It might have been repurposed for purposes that serve the tendencies of growth and development in the nation, raise the welfare of the country's people, remove poverty and deprivation, and move the country up the ladder of development progress.

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