# Afghanistan: The Economic Impact of Armed Conflict

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**Abstract:** This study examines the economic impact of armed conflict in Afghanistan. During the armed conflict between 1978 and 2021, the country received $88 billion in official development assistance (ODA) and over $136 billion in war-induced USAID funding. We found that the one-year Afghan armed conflict, with an average of 17,661 battle-related deaths, increases the GDP per capita by at least 1.9%. Comparatively, a one-year US-led war relative to a USSR-led war increases the GDP per capita by at least 5.7%; in contrast, a one-year civil war reduces it by 4.1%. In addition, our cost estimation suggests that between 2002 and 2021, at least $40.9 ± 5% billion (45.9%) of the Afghan state budget is spent on war-related and war-affected institutions. This is equal to 1,062% of Afghanistan's total GDP in 2002 and 280% in 2021. Moreover, this study will be helpful in understanding the implications of the Sustainable Development Goals and achieving specific targets such as Goal 8 (economic growth) and Goal 16 (peace and inclusive societies) in Afghanistan.

**Keywords.** Economic impact, GDP, armed conflict, USSR-led War, US-led War, civil war, Afghanistan.

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## 1. Introduction

Conventional wisdom argues that armed conflict destroys the social, political, and economic infrastructure of human society. Armed conflicts as societal and political disturbance have surged since 1946, with the Upsala Conflict Data Program (UCDP) dataset recording at least 2,626 armed conflicts and an estimated 11 million battle-related deaths (Davies *et al*., 2023; Gleditsch *et al*., 2002). Notably, the post-9/11 US-led war on terror alone accounts for over 940,000 death tools in war zones, with an influx of economic costs exceeding $8 trillion only for U.S. taxpayers (Savell, 2023; Crawford, 2021; Watson Institute, 2022). Tragically, these unexpected costs haven't ended the flames of violence. The Global Terrorism Dataset (GTD) reveals a 441% increase in terrorist attacks between 2001 and 2020 (National Consortium for the Study of Terrorism and Responses to Terrorism [START], 2022). Moreover, the human cost of displacement mirrors this trend, with the number of global refugees increasing by 29% in a single year, from 27 million in 2021 to over 35 million in 2022 (World Bank, 2023). Even global economic growth is predicted to decrease from 6% in 2021 to 2.7% in 2023 (IMF, 2022). Arguably, the recent devastation in the Hamas-Israel war stands as grim evidence of this escalating crisis. Israeli bombings from October 7, 2023, to January 24, 2024, inflicted economic ruin and claimed 25,700 Palestinian lives, with over 63,000 others wounded in the Gaza Strip and at least 60% of houses damaged (OCHA, 2024 January 24). Similarly, Hamas attacks are also responsible for 1,200 Israeli lives. These startling statistics depict the immeasurable and catastrophic human and financial impact that conflict exerts in our interconnected world.

Unfortunately, human lives and global security are being severely impacted by the ongoing political unrest and armed conflict, mainly in Afghanistan, the Middle East, Ukraine, and several African nations. However, Afghanistan, as a stark example, has been burning in the flames of continuous armed conflict for over four decades. The Cold War's legacy of superpower rivalries between the US and USSR is known as the primary source of the emergence of armed conflict in Afghanistan (e.g., Dupree, 1980; Goodson, 2001; Kakar, 1997). In particular, the Soviet-backed establishment of a communist Afghan state in 1978 and the invasion of the USSR served as the impetus for the US response to the anti-USSR resistance in 1979, which intensified the flames of armed conflict in Afghanistan (Kakar, 1997). This proxy armed conflict resulted in massive social, political, and economic destruction. As a result, thousands of innocent individuals were killed and tortured, the economy collapsed, and insecurity and social anarchy surrounded the Afghan civil population. Moreover, protracted conflict totally destroyed infrastructure, leaving behind a wasteland of shattered roads, schools, hospitals, and homes. Massive internal displacement, refugees, loss of livelihoods, and brutality expanded in every part of the country. Institutions collapsed under constant attack, breeding the ground for authoritarian nightmares with different radical opposite factions. Yet, the Afghan

people welcomed the US invasion of the country in 2001 to make the country safe and sustain peace. The US alone provided over $131 billion in US aid for Afghanistan between 2002 and 2021 (USAID, 2022). According to the World Bank (2023), additional donors provided Afghanistan with over $88 billion in official development assistance (ODA). Ultimately, the withdrawal of the US in 2021 once again resulted in the backslide of the country into its historical darkness of violence, human rights destruction, suffering, and misery.

Undeniably, the interests of regional and international powers—particularly the US and the USSR—as well as internal turmoil have made an unescapable contribution to the descent of Afghanistan into chaos. However, this article does not seek the root causes of conflict but explores the economic impact it has on Afghan people. We argue that external military intervention, which involves pouring billions of dollars while keeping the war ongoing, may significantly contribute to the survival of the wartime national economy. Yet, this superficial appearance conceals the underlying true long-term economic destruction. In our first approach, this article delves into the impact of armed conflict separating into the USSR-led era, the civil war era, and the US-led war on Afghan per capita income. In the second approach, employing the government's national budget drafts and distinguishing war-related costs from non-war-related ones, we quantify the cost of armed conflict for the Afghan people. This specific combined novel analysis illuminates the true economic burden conflict places on Afghanistan, revealing the sectors and resources diverted from crucial development initiatives and sustainable prosperity. By distinguishing between the short-term economic boom brought on by the war-induced funds and the underlying economic atrophy, we shed light on the true economic effects of the conflict and contribute to a deeper understanding of conflicts in war-affected states like Afghanistan.

In our first approach, delving into the complex link between Afghan armed conflict and economic survival, this article examines two contrasting viewpoints in armed conflict literature. Some scholars, like Colier (1999), paint a stark picture of civil war's detrimental impact, highlighting capital flight and stunted economic progress. Ghobarah *et al*. (2003) and Imai & Weinstein (2000) further emphasize the long-term suffering and stifled investment triggered by civil wars. Moreover, political instability, terrorism, and armed conflict, as Barro (1991), Gaibulloev & Sandler (2009), and Murdoch & Sandler (2004) demonstrate, cause a decrease in per capita GDP. Yet, opposite arguments by Koubi (2005), Olson (1982), and Herbst (1990) suggest that, under specific circumstances, conflicts can surprisingly stimulate economic expansion. Our investigation thoroughly examines these opposing theories within the Afghan context, revealing the nuanced dynamics at play in this war-torn nation. We provided evidence showing per capita income increased significantly during the USSR and the US eras, supporting the claims made by Koubi (2005), Olson (1982), and Herbst (1990). Nonetheless, our results

support the findings of Colier (1999) and Ghobarah *et al*. (2003) that the period of the Civil War saw a sharp decline in per capita income. It suggests that the external military intervened in the conflict by providing billions of dollars in financial and military support, which might have a positive impact on the economy temporarily.

In our second approach, we quantify the economic burden placed on Afghan people by decades of conflict. Due to a lack of data, we focus on the last two decades, 2002-2021. Measuring the financial cost of war on a nation's economy is notoriously complex. However, numerous studies across varied contexts have tackled this challenge, offering valuable insights applicable to Afghanistan. For instance, the cost of conflict for Nicaragua during 1980–1984, was estimated at a staggering 77% of the 1980 GDP (Fitzgerald, 1987). Similarly, Sri Lanka (Arunatilake *et al*., 2001) and the Basque Country (Abandie & Gardeazabal, 2003) experienced significant economic contractions attributed to conflict and terrorism. Notably, Gates *et al*. (2012) provide a cross-sectional analysis suggesting a conflict with at least 2,500 battle-related deaths correlates with a 15% drop in GDP per capita, highlighting the profound impact on vulnerable populations. Our second strategy investigates Afghanistan's national budget in detail, taking cues from these many studies. We expose the true cost of fighting for the Afghan people by painstakingly distinguishing war-related from non-war expenditures.

This article, with two unique interconnected empirical approaches, will help in understanding the economic impact of armed conflict in Afghanistan. The first approach challenges conventional wisdom by arguing that external military invasions cause war in the short term compared to civil wars, which boost per capita income. Through this approach, we revealed that foreign-led conflict promotes Afghan per capita income in the short term. In our second approach, by quantifying the economic cost of war considering the state budget, we disclosed the real long-term economic effects of war on the country. If a large percentage of the state budget is allocated to defense and security, other critical sectors such as education, healthcare, and development will be severely impacted in the long run. However, using these two interrelated methods, our research addresses the intricate economic effects of the conflict in Afghanistan. This special synthesis of empirical research sheds light on the complex economic costs of conflict, including the short-term and real long-term effects. In addition, this study provides insightful information for understanding the influences of governmental actions intended to heal and reconstruct war-affected states such as Afghanistan, considering national resource allocation in the state budget.

## 2. Historical Background

In this section, we concisely delve into the historical background of Afghanistan from 1900 to 2023. Sixteen leaders have ruled Afghanistan from the 1900s onward, ranging in duration from two months to forty years (see Table 1). These mostly despot figures,

fueled by regional and global actors, birthed a succession of authoritarian regimes. Table 1 further depicts that one tyrant removed another ascendant, often ushered in on the disruptive tides of foreign intervention, coups, assassinations, and violent armed conflict. As a result, six non-violent and 10 violent military takeovers and coups took place during the power shift, with nine rulers projecting to death. Most profoundly, the nation's political roadmap was significantly affected by invasions from two superpowers—the US and the USSR—and a brutal civil war.

**Table 1.** Political transition and regime change in Afghanistan, 1900–2021.

| No | Period | Duration | Head of state name | Political regime | Death cause | Transition |
|---|---|---|---|---|---|---|
| 1 | 1901–1919 | 19-yr | Habibullah Khan | Monarchy | Assassinated | Peaceful* |
| 2 | 1919–1929 | 10-yr | Amanullah Khan | Monarchy | Natural | Peaceful |
| 3 | 1929– | 9-mo | Habibullah Kalakani | Monarchy | Assassinated | Takeover |
| 4 | 1929–1933 | 4-yr | Nadir Shah | Monarchy | Assassinated | Takeover |
| 5 | 1933–1973 | 40-yr | Zahir Shah | Monarchy | Natural | Peaceful |
| 6 | 1973–1978 | 5-yr | Dawood Khan | Republic | Assassinated | Coup |
| 7 | 1978–1979 | 1.5-yr | Noor Mohammad Taraki | Democratic Republic | Assassinated | Coup |
| 8 | 1979– | 3-mo | Hafizullah Amin | Democratic Republic | Assassinated | Coup |
| 9 | 1979–1986 | 6-yr | Babrak Karmal | Democratic Republic | Natural | Coup |
| 10 | 1986–1992 | 6-yr | Najibullah Ahmadzai | Democratic Republic | Assassinated | Peaceful |
| 11 | 1992– | 2-mo | Sibghatullah Mojaddadi | Fundamental Islamic | Natural | Takeover |
| 12 | 1992–1996 | 5-yr | Burhanuddin Rabbani | Fundamental Islamic | Assassinated | Peaceful |
| 13 | 1996–2001 | 5-yr | M. Mohammad Omer | Radical Islamic | Assassinated | Takeover |
| 14 | 2001–2014 | 14-yr | Hamid Karzai | Islamic Republic | Alive | Takeover |
| 15 | 2014–2021 | 7-yr | Ashraf Ghani Ahmadzai | Islamic Republic | Alive | Peaceful |
| 16 | 2021– | - | M. Haibatullah Akhundzada | Radical Islamic | Alive | Takeover |

*Source*: Author calculation from various historical books (Dupree, 1980; Goodson, 2001; Kakar, 1997; Lansford, 2017; Shahrani, 2002). * Our definition of a peaceful transition is that a ruler changes without conflict by passing away an autocrat and descending to power another autocrat from his family, or transferring from one despotic ruler to another in an agreement without conflict.

Table 2 further depicts the human costs of war in Afghanistan. In 1919, the Third Anglo-Afghan War resulted in Afghanistan's declaration of independence from British India, at the cost of over 3,000 Afghan combatants' lives (Lansford, 2017, p. 47). After independence, the revolutionary king launched a series of European-style liberalization initiatives to modernize the country (Dupree, 1980). These modernization efforts faced resistance from the deeply religious and tribal elites, who ignited a rebellion against the king's reforms (Kakar, 1997). The resultant political unrest and armed conflict persisted until the overthrow of the king in 1929, resulting in an estimated 20,000 conflict-related deaths (Lansford, 2017). Yet, from 1900 to 1978, a succession of monarchs

wielded absolute power, imposing various political ideologies and exacerbating the conflict between political and tribal elites, plunging the country into a protracted cycle of violent political instability (Table 1). Consequently, the Cold War rivalry between the USSR and the US was projected with the 1979 invasion of Afghanistan by the Soviets. The proxy war between both sides claimed a staggering battle-related death toll of at least 500,000 lives (Table 2). Following the fall of the Afghan communist state in 1992, a new phase of civil war erupted among various anti-communist factions, lasting until the US invasion in 2001. The civil war accounts for at least 51,000 direct deaths. Moreover, from 2002 to 2021, the US-led war on terror claimed over 242,000 lives as well. Tragically, the fighting continued even after the US withdrawal, with K-ISIS and the anti-Taliban opposition keeping the conflict alive. In 2022, Afghanistan recorded at least 1,375 conflict-related fatalities. Overall, Afghanistan has endured at least 52 years of armed conflicts in the past century, resulting in over 817,000 battle-related deaths (Maoz *et al*., 2019; Davies *et al.*, 2023; Gleditsch *et al*., 2002; Lansford, 2017).

**Table 2**. Armed conflict and its human cost in Afghanistan, 1919–2022

| Year | Duration | Description | Killings |
|---|---|---|---|
| 1919– | 1-yr | Third Anglo-Afghan war | 3,000 |
| 1924–1929 | 6-yr | Anti-reformist rebellions | 20,250 |
| 1978–1991 | 14-yr | Soviet invasion | 498,781 |
| 1992–2001 | 10-yr | Civil war | 51,868 |
| 2002–2021 | 20-yr | US invasion | 242,744 |
| 2022– | 1-yr | K-ISIS and Anti-Taliban resistance | 1,375 |
| **Total** | 52-yr | | 817,768 |

*Source:* Author calculation. Data from the Correlates of War (COW) dataset (Maoz *et al*., 2021) for the period of 1924–1929, from the UCDP Battle-Related Deaths Dataset version (Davies, Pettersson, & Öberg, 2023; Gleditsch *et al*., 2002) dataset for the period of 1978–2022, and from historical book (Lansford, 2017:49) for the Third Anglo-Afghan war have been collected. Human casualties on the best estimation approach have been considered, whereas the COW and UCDP datasets provide low, high, and best estimations.

Table 3 depicts the socioeconomic chronology of Afghanistan during the period 1978–2022. Afghanistan's long-running armed conflict has had a devastating impact on the country's economy, plunging it into a state of perpetual decline. In 1960, Afghanistan ranked 6th from the bottom in the world in terms of GDP per capita, with a meager $62 (World Bank, 2023). However, by 1977, the year before the outbreak of war, Afghanistan recorded significant progress, climbing to 21st place from the bottom with a GDP per capita of $232 (see Table 3). Although the Soviet invasion had a positive impact on economic growth, the subsequent civil war-shattered Afghanistan's economic gains. GDP per capita plummeted, and by 2002, the country had once again sunk to 5th from the bottom, with a GDP per capita of just $183. Despite two decades of US-led reconstruction

efforts, Afghanistan's economy remains in tatters. In 2021, after the withdrawal of the US, the country ranked second from the bottom in the world in terms of GDP per capita, with a mere $363 (World Bank, 2023). Similarly, the trade deficit increased from 6.7% in 1977 to 81% in 2021 (Table 3). The conflict has also triggered a massive internal displacement crisis, with a large number of refugees and a significant shift from rural to urban areas. The sharp population increase has further exacerbated socioeconomic problems. In 2021, Afghanistan's population was estimated to be over 40 million, with 73% living in rural areas. This represents a substantial increase from 1977, when Afghanistan's population was approximately 12 million, with over 85% residing in rural areas (Table 3).

Moreover, the protracted armed conflict in Afghanistan has triggered a mass displacement crisis, with the number of refugees skyrocketing from a mere 0.5 million in 1979 to a staggering 5.5 million in 2021, scattered across neighboring and Western countries (see Table 3). Internally, an estimated 4.3 million displaced people were reported in 2022 (World Bank, 2023). This relentless conflict has left an indelible mark on Afghanistan, claiming nearly 1 million battle-related deaths, leaving 1.5 million disabled, creating 2 million widows, and orphaning over 18% of children under five (Table 3). The conflict has also severely hampered education, with only 38% of children able to attend secondary school (Central Statistics Organization, 2017). The economic fallout has been equally devastating, with 97% of the population living in poverty and an alarming 92% facing food insecurity in 2022 (Watson Institute, 2022). Despite these immense challenges, Afghanistan has made some strides in improving mortality rates and life expectancy. Life expectancy has also increased from 46 in 1977 to 64 in 2021 (Table 3). However, unprotected drinking water and poor sanitation still significantly increase the risk of under-five-year and infant mortality in Afghanistan (Ghafoori, 2022; Ehsan *et al.*, 2021), but the mortality rate has declined from 262 per 1,000 live births in 1977 to 55 in 2021. Table 3 also highlights how the armed conflict in Afghanistan has systematically eroded the country's institutions. Since the outbreak of conflict in 1978, civil liberties, educational equality, women's rights, and political corruption have all deteriorated significantly. The V-Dem dataset measures these indices on a scale of 0 to 1, with lower scores indicating weaker institutions (Coppedge *et al*., 2021).

In 1977, before the conflict's inception, civil liberties were scored at 0.224. However, by 2002, this index had plummeted to an alarming 0.026, indicating that civil liberties had virtually disappeared during the war. Even after the US withdrawal in 2021, this ratio remains significantly lower than the pre-war level, at 0.173. The war has also taken a heavy toll on political and economic institutions, which are crucial for safeguarding human rights, fostering democracy, and ensuring sustainability. Following the US withdrawal, all aspects of democracy in Afghanistan have regressed dramatically to pre-1977 levels (Table 3). However, during the democratic era, ethnicity became a significant

**Table 3**. Socioeconomic chronology of Afghanistan, 1978–2022

| | 1977[a] | 2002[c] | 2021[e] |
|---|---|---|---|
| **Macroeconomic perspective** | | | |
| GDP, Total (Billion US$) | 2.935 | 3.850 | 14.580 |
| GDP per capita (Current US $) | 232 | 183 | 363 |
| GDP per capita annual change (%) | 13.18 | -41.15 | -29.64 |
| Trade deficit (%) | 6.71 | 95.92 | 81.33 |
| Poverty, population (%) | | 80[d] | 97[f] |
| **Demographic and social perspective** | | | |
| Population, Total (Million) | 12 | 21 | 40 |
| Rural population (%) | 85 | 77 | 73 |
| Mortality under five (per 1,000 live births) | 262.4 | 121.2 | 55.7 |
| School attendance, secondary (%) | | | 38[i] |
| Orphan among children under five (%) | | | 18.4[i] |
| Food insecurity, population (%) | | 62[d] | 92[f] |
| Refugee (Million) | 0.5[b] | 2.5 | 5.6 |
| Internally displaced (Million) | | | 4.3[f] |
| Armed conflict deaths (Millions) | | | 0.9[f] |
| Disabled population (Million) | | | 1.5[f] |
| Number of Widow (Million) | | | 2f |
| Life expectancy (Year) | 46.4 | 54.7 | 64.3[f] |
| **Institutional perspective** | | | |
| Civil liberty index | 0.224 | 0.026[d] | 0.173[f] |
| Education equality | 0.952 | 0.092[d] | 0.168[f] |
| Women civil liberty | 0.157 | 0.022[d] | 0.011[f] |
| Political corruption | 0.513 | 0.762[d] | 0.448[f] |

*Source*: Author calculation from the World Bank (2023), V-Dem (Coppedge *et al*., 2023), UCDP Battle-Related Deaths Dataset version 23.1 (Davies, Pettersson, & Öberg, 2023), the Correlates of War (COW) (Maoz *et al*., 2019), Watson Costs of War Project (Watson Costs of War, 2022), and National Demographic Health Survey (Central Statistics Organization, 2017) datasets.

[a] Indicates 1977, the year before the war started.

[b] Indicates 1979, the year of the USRR invasion of Afghanistan.

[c] Indicates 2002, the one year after the US invasion.

[d] Indicates 2000, the one year before the US invasion.

[e] Indicates 2021, the withdrawal of the US, and the collapse of the Afghan government.

[f] Indicates 2022, the first year of the Taliban in power (second time).

[i] Indicates 2015, the National Demographic and Health Survey (2015DHS).

behavior of voters (Yolchi & Hazem, 2019), female child marriage increased (Ehsan, Ghafoori, & Akrami, 2021), civil servant effectiveness decreased (Ghafoori, Marat, & Rezaie, 2019), while some improvement recorded in national development programs (Yolchi & Ahmadi, 2021).

## 3. Theoretical Argument and Hypothesis

Multiple theories exist to interpret the prolonged conflict in Afghanistan. Nation-state stability may be impacted by resource competition (Organski & Kugler, 1980), hegemonic dominance (Chomsky, 2000), and domestic political instability (Sambanis, 2004), as well as socioeconomic disparities (Stewart, 2002). Understanding how the conflict has impacted Afghanistan's political roadmap requires unraveling this intricate network of interdependencies. A sobering case study of the intricate linkages between internal divides and external manipulations is provided by the protracted conflict in Afghanistan. Researchers believe that a powerful mix of domestic strife stoked by conflicting political and socioeconomic philosophies, as well as the strategies of global superpowers competing for supremacy and influence, is to blame for the start of the war.

Figure 1 illustrates this intricate interaction very well in the context of Afghanistan. It is clear that the 1978 infusion of foreign military support, mainly from the USSR to the Marxist regime and the US-led coalition to anti-Soviet rebels, turned political protests into full-fledged combat confrontations. It's interesting to see that recipients and forms of foreign aid changed over time (see Figure 1). Although the USSR mainly provided support to the newly installed government, the coalition led by the US distributed military aid to a broader range of anti-Soviet organizations via Pakistan (Shahrani, 2002). Interestingly, foreign military aid, both in terms of quantity and variety, significantly increased during the US-led War on Terror while the number of armed opposition groups decreased (see Figure 1). The fact that at least two armed organizations (K-ISIS and National Resistance Front – NRF) are still there and opposing the Taliban regime, however, shows that the fight has not ended with the US pullout. Thus, Figure 1 highlights the long-lasting impact of both international intervention and internal strife on

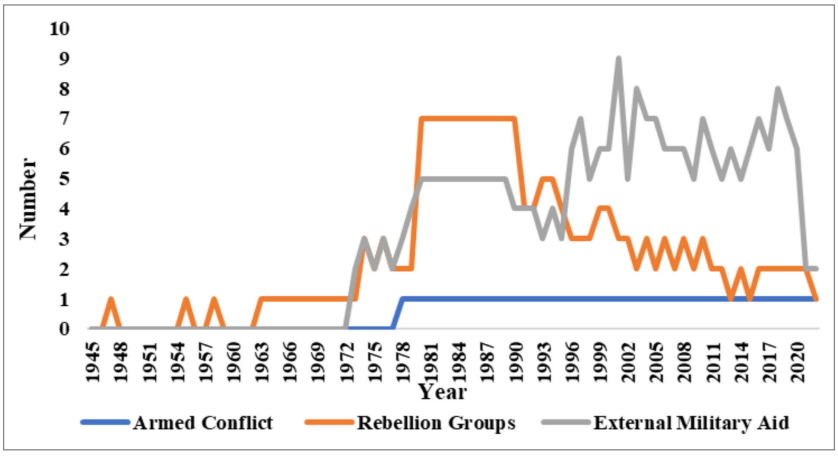


**Figure 1.** Conflict, rebellion, and external military aid, 1945–2022 (Meier *et al*., 2022).

Afghanistan's ongoing instability. Comprehending this complex network of variables continues to be essential for formulating efficacious strategies and promoting enduring stability in this nation devastated by conflict.

Figure 2 depicts the military assistance and foreign aid that the US and USSR provided to Afghanistan throughout the protracted conflict. The cost of war for the USSR in Afghanistan was estimated at over $48 billion between 1980 and 1986 (CIA, 2000). In addition, between 1980 and 1989, the USSR provided Afghanistan with considerable military assistance, totaling 9.13 billion rubles (Minkov & Smolynec, 2007). However, finding data on Soviet economic aid is still a challenge. Post-2001 foreign aid has surpassed all previous projections. According to World Bank statistics, Afghanistan received official development aid (ODA) of $88.6 billion between 1978 and 2021 (World Bank, 2023). As per USAID (2022), the United States alone has provided over $136 billion in foreign aid between 1978 and 2021. Notably, foreign aid to Afghanistan during the civil war (1992–2001) nearly stopped, in contrast to the deluge of aid that took place during the USSR-backed war and the US-led war on terror. A mere $2.12 billion in foreign aid was injected into Afghanistan during the civil war (World Bank, 2023). The distribution of data in Figure 2 clearly shows how the emergence of a foreign-backed war in Afghanistan and international aid are critically related. Highlighting the possibility of short-term advantages in the economy from the inflow of foreign capital in a war supported by foreign countries, while falling in a civil war.

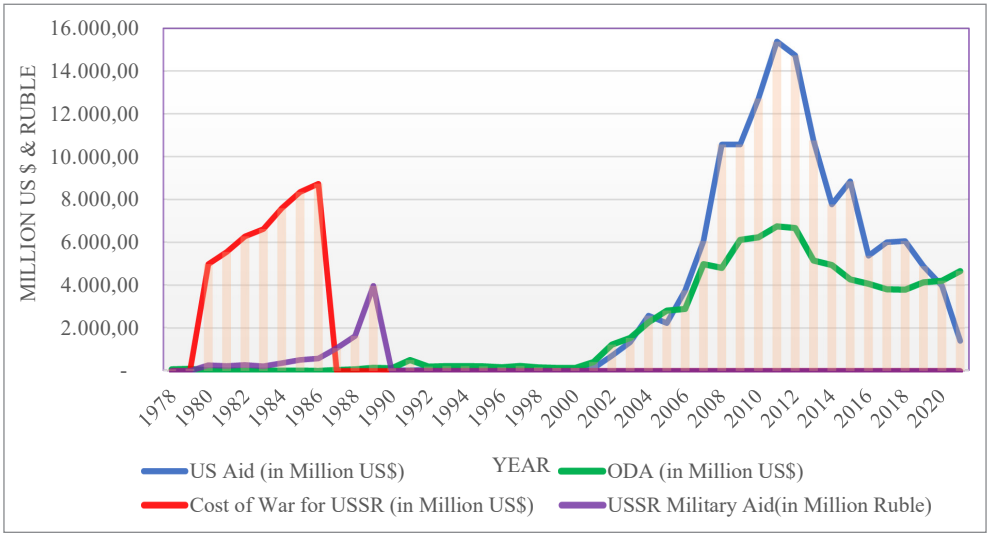


**Figure 2**. US aid, USSR aid, and ODA, 1978–2021.

Furthermore, Afghanistan's long-running conflict has a lasting and pernicious effect on the country's economy, making the illegal opium trade a major source of revenue

for the country's rural communities. This sad truth is eloquently illustrated in Figure 3, which shows a clear association between rising opium cultivation and intensifying warfare. The data presents a disconcerting image: following the Taliban's ascent in 1994, opium cultivation increased rapidly, then decreased momentarily in 2001 before increasing dramatically again under the US occupation. Data in Figure 3 indicates that opium cultivation has increased by 32% in 2022 relative to 2021, which is concerning because it continues this trend under the Taliban administration. Prompted by this illegal activity, Afghan farmers earned an estimated $1.4 billion in 2021—nearly thirty percent of the country's total production from agriculture (United Nations Office on Drugs and Crime [UNODC], 2022b). This opium trafficking dependency has frightening global ramifications. Afghanistan supplied an astounding 80% of the world's opiate needs in 2022, which significantly increased the flow of heroin and opium (UNODC, 2022b). A frightening prediction made by the UNODC is that 350–580 tons of heroin might be produced in 2022 alone (UNODC, 2022a). This worry is further reinforced by the fact that wholesale heroin prices have skyrocketed in the US, rising from $5,907 per kilogram in Afghanistan to a startling $59,500 (UNODC, 2022a). This sharp data presents a clear image: The protracted conflict in Afghanistan creates a profitable but dangerous setting for opium trafficking. It is imperative to comprehend the intricate relationship between war, per capita income, and illicit economies in order to formulate efficacious policies that foster enduring stability and mitigate the suffering of the Afghan populace.

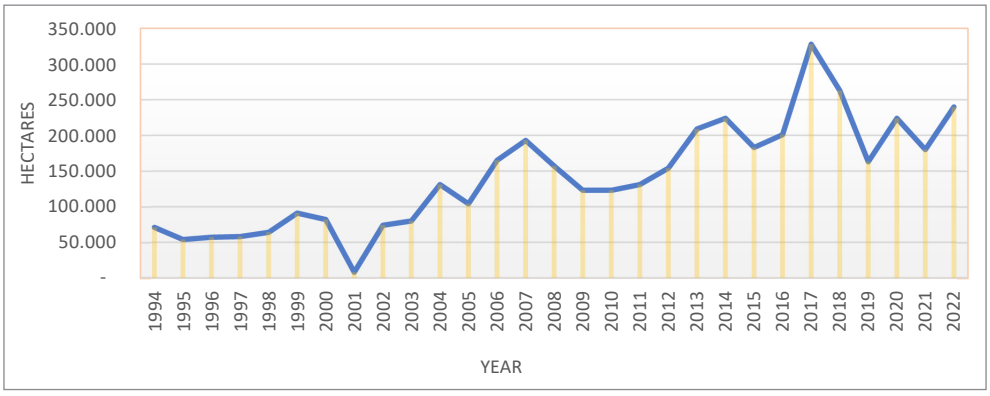


**Figure 3**. Opium cultivation in Afghanistan, 1994–2022.

Afghan GDP per capita is a complicated waltz partner of illicit opium trafficking, foreign aid, and war. Theories such as hegemonic (Chomsky, 2000) competition and internal fissures (Stewart, 2002) shed light on the conflict's causes, but a more thorough analysis is required to determine how they affect income. Foreign aid worth billions, meant to promote development (Abate, 2022), and improved infrastructure (Donaubauer *et al*., 2016) is still a double-edged sword in the context of Afghanistan. The opium trafficking

clogs the channels even further. We provide a graphic representation of the per capita income in Afghanistan from 1960 to 2021 (Figure 4) to bolster our arguments. According to the facts, the presence of foreign nations considerably raises per capita income through foreign aid. For example, the GDP per capita grew dramatically from $255 in 1978 to $284 in 1979 when the USSR invaded the nation (see Figure 4). The graph also demonstrates how Afghanistan's per capita income dropped sharply by $123 in 2000 following the USSR's withdrawal and the descent of the civil war. The GDP per capita increased with the US invasion and peaked at $663 in 2012. However, after the US withdrew, it drastically decreased to $308 in 2022. Overall, Figure 4 indicates that wars sponsored by foreign countries foster the expansion of both non-financial and financial assistance, as well as an increase in illicit economic activity and short-term economic growth. It also indicates that when foreign assistance is stopped, the economy would crash once more in fragile states like Afghanistan.

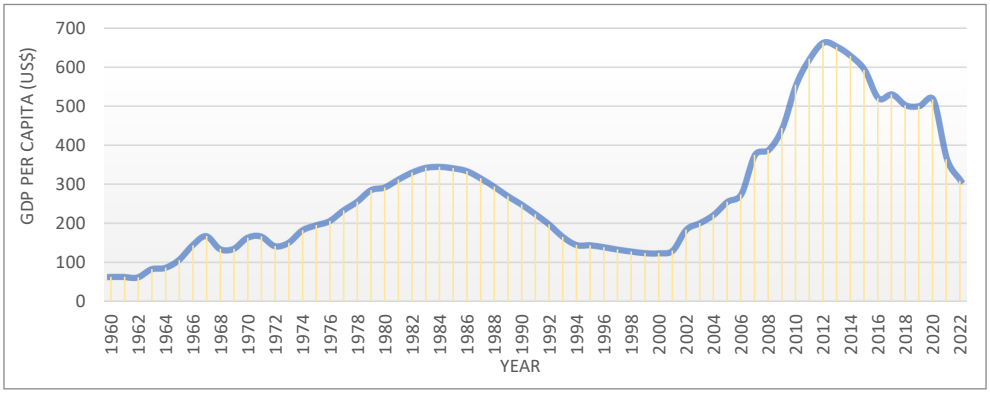


**Figure 4**. GDP per capita in Afghanistan, 1960–2021

The literature gives less attention to country-based studies that look into how heavily foreign-backed wars affect economic expansion and what the national economy's primary resources are during a war. According to our above arguments, we developed the following hypotheses to simplify our contributions: We hypothesize that the active participation of foreign powers in a conflict by invasion is transient and beneficial to the economic expansion of the invaded country during the invasion period (**Hypothesis 1**). As shown in Figures 2 and 4, we previously explained how the GDP per capita dramatically increased as a result of the USSR and US invasion of Afghanistan and how this rise took the opposite form when both countries withdrew. Furthermore, in Figures 2 and 4, we present that during the civil war (1992–2001), international aid and, consequently, per capita income significantly declined. It also allows us to advance our second hypothesis (**Hypothesis 2**), which states that civil wars hurt per capita income. Due to the direct military participation of foreign nations in the conflict through invasions, the

intervenors supply both economic and military support, which momentarily boosts the growth of the host economy, to keep the government in place and ensure its economic survival. In addition, as shown in Figure 2, Afghanistan has received a significant amount of official development assistance (ODA) over the past 45 years of protracted violence. This reasoning forces us to formulate our third hypothesis, which holds that foreign aid promotes GDP per capita temporarily during conflict (**Hypothesis 3).** Additionally, as Figure 3 illustrates, opium cultivation rose dramatically throughout the conflict. Finally, we conclude that Afghan GDP per capita is significantly associated with opium cultivation as well (**Hypothesis 4**).

## 4. Data and Econometric Model

In this study, five robust Upsala Conflict Data Program (UCDP), World Database Indicators (WDI), Variety of Democracy (V-Dem), United Nations Office on Drugs and Crime (UNODC), and United States Agency for International Development (USAID) datasets have been employed. For the GDP per capita, the dependent variable, we use the World Bank's WDI and V-Dem datasets[1]. We linked the armed conflict with Afghan per capita income based on battle-related deaths. The battle-related death data for our study period is provided in the UCDP Battle-Related Deaths Dataset (Davies, Pettersson & Öberg, 2023; Gleditsch *et al*., 2002). The UCDP defines an armed conflict as a contested dispute involving the state in which at least 25 battle-related deaths occur in a particular conflict year as a result of the use of force by two sides, at least one of which is the state government. Utilizing data from the UCDP, we estimated that Afghanistan experienced at least 17,661 battle-related deaths annually on average between 1978 and 2022[2].

The official development assistance (ODA) data and population were extracted from the WDI dataset (World Bank, 2023). Similarly, data for opium cultivation is obtained from the UNODC (2022) dataset and US foreign aid from the USAID (2022) dataset. Furthermore, the UCDP External Support Dataset (ESD) was applied to track the data for the types and number of external military aid and the number of rebellion groups involved in the war in Afghanistan (Meier *et al*., 2022). The UCDP's ESD categorizes external military support into ten types, including provision of weapons, funding, training, logistics, intelligence, territory, and so on. According to the UCDP's ESD dataset, in the context of Afghanistan, on average, 3.5 armed rebellion groups were involved in the war, receiving external military aid between 1978 and 2021.

1 The data for GDP per capita during 1982 and 2001 in the WDI dataset is incomplete. The V-Dem datasets (Coppedge *et al*., 2021) provide an estimation index for GDP per capita. Using the imputation technique applied to the V-Dem dataset, we filled this gap.

2 The total battle-related deaths for the period 1978–2022 were estimated at least 794,768. The average is 17,661 deaths.

To select our statistical model, we cautiously tested the regression assumptions[3]. The result of the pre-estimations test encourages us to apply OLS regression in this study. Furthermore, our dependent variable (GDP per capita), is normally distributed. Using the natural logarithm form of the variables, we take into account the model assumptions that have been violated, such as serial autocorrelation and heteroskedasticity issues, and we perform the regression model with robust errors as well. To have a robust result, we developed six individual models by including each variable in our base model separately (Table 4). Finally, in our second approach, to quantify the economic cost of the war for Afghanistan, we consider the Afghan national budget drafts[4]. Due to a lack of data, we focus on the last two decades of US presence in Afghanistan, 2002–2021.

## 5. Empirical Results

Table 4 displays the findings from the OLS regression study of the impact of armed conflict on Afghanistan's per capita income from 1978 to 2021. To test Hypotheses 1 and 2, we split the Afghan conflict into three phases: the Soviet invasion (1978–1991), the civil war (1992–2001), and the US invasion (2002–2021). This allows us to account for the effect of a foreign-backed war on per capita income in comparison to the civil war. In Figure 4, we illustrate how the GDP per capita during the Soviet invasion period increased, followed by a sharp decline to less than $200 after the Soviets withdrew in 1989. The graph also shows that per capita income in the US era has increased significantly, coming close to $700 in 2012. With the US's exit, the GDP per capita has decreased dramatically once again; in 2021, it fell by $363 from $516 the year before. It implies that there was a strong correlation between economic expansion and conflicts supported by foreign powers during the war.

In model 1, we tested this scenario by estimating the impact of log battle-related deaths (a proxy for war) on log GDP per capita. The result indicates that the association between

3 The normality test for our dependent variable through the joint test result of Skewness and Kurtosis with a p-value of 0.074, the Shapiro-Francia W test with a p-value of 0.115, and the Kolmogorov-Smirnov test (Combined K-S) with a p-value of 0.767 indicates that the dependent variable is normally distributed. The Breusch-Pagan/Cook-Weisberg test for heteroskedasticity and the Ramsey RESET test for omitted variables indicate that the model suffers from heteroskedasticity and serial autocorrelation. The multicollinearity test was done through VIF, except for the population with 10.22; for all other variables, the VIF value is less than 6, with a mean VIF of 4.3, which indicates that the model does not suffer from multicollinearity problems.

4 The Ministry of Finance of Afghanistan (MoF) prepares the national annual budget of the nation. The draft of the last two decades is available on the website or in print, but the draft of the first two decades of war is neither on the website nor in print. First, we incorporate the last two decades to calculate the economic cost of the war in Afghanistan. Then we rationalized our finding, considering GDP for the previous two decades and generating several assumptions. For more details, please refer to the online appendix.

GDP per capita and armed conflict is significant and positive. The positive coefficient of 0.201 implies that a one-year armed conflict with an average of 17,661 battle-related deaths increases the GDP per capita by about 1.965%[5]. With a negative coefficient of -0.422, the model also demonstrates how the Civil War era considerably reduced GDP per capita when compared to the Soviet War. Similarly, the US war era positively and greatly enhanced per capita income in comparison to the Soviet conflict, as indicated by a log-form coefficient of 0.586. It suggests that the one-year US war with an average of 17,661 battle-related deaths compared to the Soviet war affected the GDP per capita by 5.730% growth, and a one-year civil war without the direct involvement of foreign sponsors is predicted to lower the GDP per capita by 4.126%[6]. The result from Model 1 suggests that both the direct involvement of the USSR and the US in the Afghan war resulted in a temporary increase in the per capita earnings, and the civil war had a reverse effect on it, which is consistent with our ***Hypothesis 1 and 2***.

In models 2, 3, and 4, we assess the impact of pro-war indicators—rebellions, external military supports, and population—on per capita income. We include the log form for each in our base model separately. The result from model 2 for the effect of rebellions on GDP per capita is negative but insignificant. It suggests that the existence of rebellions insignificantly reduces Afghan per capita income. The result from Model 3 for the impact of external military support on economic expansion is positive but not significant. It implies that the provision of military aid insignificantly contributes to increasing per capita income. Similarly, the result from Model 4 for the role of population in economic promotion shows that population insignificantly reduces the GDP per capita during wartime. Our research, in models 2–4 which looks at how pro-war variables affected Afghan wartime income, paints a complicated picture. Although it seems that external military aid has a positive impact on per capita income, the statistical evidence is still inconclusive. In a similar vein, uprisings, and population, while theoretically having a detrimental effect, don't have any concrete evidence of doing so, pointing to a complex relationship between conflict and economic prosperity in Afghanistan.

In Figures 2 and 3, we visualized the trend of opium cultivation and foreign aid as two key income resources of the wartime economy. During wartime, both illegal economic activities and foreign aid significantly increased, which indicates that both have a strong link with war and economic survival. In models 5 and 6, we assess the impact of these two wartime economic resources in our base model by considering the log form of both

5 The logarithm of 17,661 battle-related deaths is 9,779 and multiplied by the log coefficient of battle-related death 0.201, the result is 1.965%.

6 The logarithm of 17,661 battle-related deaths is 9,779 and multiplied with the log coefficient of civil war (1992–2021) period 0.422 the result is 4.126, and multiplied with the logo of US war is 5.730.

in separate models. Model 5 shows the result of the impact of foreign aid (ODA) on GDP per capita. The result indicates that foreign aid positively and significantly increases per capita income, with a 0.156 coefficient in log form.

In terms of elasticity, a 1% increase in the log of foreign aid, GDP per capita will significantly increase by 0.156% points, which is consistent with our ***Hypothesis 3***. Similarly, the result from model 6 for the effect of illegal economic activities on per capita income indicates that GDP per capita is significantly and positively associated with the level of opium cultivation in the country. The result from model 6 for the impact of opium cultivation on GDP per capita with a coefficient of 0.096 in log form shows that a 1% increase in the cultivation of opium in terms of elasticity will increase the GDP per capita by 0.096% points, which is also consistent with our ***Hypothesis 4*.**

**Table 4.** The Impact of Armed Conflict on GPD per capita in Afghanistan, 1978–2021: OLS regression

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Battle-related deaths (ln) | 0.201<br>0.041*** | 0.198<br>0.040*** | 0.198<br>0.040*** | 0.213<br>0.058*** | 0.224<br>0.056*** | 0.218<br>0.040*** |
| USSR war (1978-1991) base | | | | | | |
| Civil war (1992-2001) | -0.422<br>0.102*** | -0.466<br>0.112*** | -0.467<br>0.118*** | -0.383<br>0.257 | -0.306<br>0.240 | -<br>- |
| US war (2002-2021) | 0.586<br>0.092*** | 0.484<br>0.131*** | 0.483<br>0.157*** | 0.639<br>0.395 | 0.099<br>0.406 | -<br>- |
| Number of Rebellion Groups (ln) | | -0.098<br>0.093 | -0.099<br>0.096 | -0.134<br>0.136 | -0.066<br>0.129 | -0.247<br>0.123* |
| Number of External military aid (ln) | | | 0.003<br>0.189 | 0.009<br>0.185 | -0.097<br>0.130 | -0.114<br>0.133 |
| Population (ln) | | | | -0.174<br>0.410 | -0.373<br>0.376 | -0.458<br>0.374 |
| Official Development Assistance (ln) | | | | | 0.156<br>0.035*** | 0.205<br>0.032*** |
| Opium cultivation (ln) | | | | | | 0.096<br>0.050* |
| Constant | 3.656<br>0.434*** | 3.852<br>0.437*** | 3.845<br>0.467*** | 4.17<br>0.777*** | 1.930<br>0.770** | 0.281<br>0.536 |
| Observation | 44 | 44 | 44 | 44 | 44 | 28 |
| R2 | 0.843 | 0.847 | 0.847 | 0.848 | 0.905 | 0.943 |

*Source*. Author calculation. Dependent variable GDP per capita and all independent variables are considered with their natural logarithm forms to treat non-linearity, heteroscedasticity, and serial autocorrelation. In addition, all models incorporate robust errors. * p<0.1; ** p<0.05; *** p<0.01

## 6. Estimating the Economic Cost of Armed Conflict, 2002–2021

Researchers have developed a number of different methods to estimate the economic costs of war. For example, Arunatilake *et al*., (2001) split the expenses into direct and indirect categories in their case study of Sri Lanka's economic cost of war using interest rates on data collected from the Central Bank's annual report. In a similar vein, Abandie and Gardeazabal (2003) estimated the economic cost of terrorism by constructing a synthetic territory devoid of terrorism and comparing its economic performance to that of the real Basque region. Moreover, Fitzgerald (1987) used comparative analysis to examine Nicaragua's economic costs of war, contrasting the real economic performance of the nation with the forecasts provided by the previous administration. A cross-sectional study by Stewart *et al*., (2000) estimated the economic impact of warfare by comparing the average growth of various regions.

Yet, the Afghan people's financial losses from the war have not been as well measured. A few studies attempted to discover the impact of the conflict on the economy of Afghanistan. For example, Barrett (2018) argues that due to the conflict, the Afghan central government between 2005 and 2017 lost about $3 billion in revenue. Another study investigates the relationship between conflict and household well-being in war-affected areas, highlighting that household expenditure increased in the presence of international troops (Floreani *et al*., 2021). Interestingly, another study argues that the association between violent conflict in Afghanistan and households participation in private economic activities is positive (Ciarli, Kofol, & Menon, 2015). In a similar pattern, Bove and Gavrilova (2014) attempt to investigate the impact of conflict on food prices. Notably, a qualitative survey examines the individual experiences of civilians during the armed conflict (Jackson, 2009). The survey results show that 43% of respondents reported property destruction, 25% had land destroyed, and 34% had experienced robbery. Additionally, 76% were forced to flee their homes due to the conflict, and 70% reported experiencing unemployment. These findings underscore the devastating impact of war on civilian populations, not only in terms of physical destruction and displacement but also in terms of economic hardship and loss of livelihood. However, all these works do not reflect the countrywide impact of war and conflict on the economy.

To quantify the economic costs of war, we employ national budget drafts. Table 5 presents the total national budget of Afghanistan for the period of 2002–2022. The total national core budget over the past two decades has been reported at over $91.8 billion (see Table 5). 37% financing through domestic revenue, 57% foreign aid, and a 6% budget deficit. Furthermore, 60% of the national core budget is allocated to operational activities and only 40% to development programs. The result from Table 5 suggests that the Afghan national budget was heavily reliant on foreign aid with little consideration for development programs.

**Table 5.** Total national budget of Afghanistan (in million US$), 2002–2022

| Year* | | National Core Budget | Financing Sources | | | Expenditure Type | |
|---|---|---|---|---|---|---|---|
| | | | *Domestic Revenue* | *Foreign Aid* | *Budget Deficit* | *Operating* | *Development* |
| 2002–03ϕ | 1381 | 1,803.80 | 100.90 | 1,152.00 | 550.90 | n/a | n/a |
| 2003–04ϕ | 1382 | 2,268.00 | 208.10 | 1,817.90 | 242.00 | n/a | n/a |
| 2004–05 | 1383 | 1,378.60 | 308.60 | 628.40 | 441.60 | 608.60 | 770.00 |
| 2005–06 | 1384 | 1,884.40 | 333.00 | 1,059.60 | 491.80 | 678.00 | 1,209.00 |
| 2006–06 | 1385 | 2,204.56 | 520.00 | 1,684.56 | n/a | 831.80 | 1,372.76 |
| 2007–08 | 1386 | 2,612.16 | 715.46 | 1,594.36 | 302.34 | 459.39 | 2,152.77 |
| 2008–09 | 1387 | 2,695.35 | 887.50 | 1,737.85 | 70.00 | 1,307.19 | 1,388.16 |
| 2009–10 | 1388 | 2,942.53 | 973.08 | 1,541.61 | 427.84 | 1,806.80 | 1,135.73 |
| 2010–11 | 1389 | 4,443.21 | 1,466.39 | 2,862.85 | 113.97 | 2,397.24 | 2,045.97 |
| 2011–12 | 1390 | 4,593.64 | 2,028.22 | 2,455.64 | 109.77 | 3,192.31 | 1,401.32 |
| 2012–13 | 1391 | 4,894.88 | 1,900.28 | 2,740.07 | 254.53 | 2,673.81 | 2,221.07 |
| 2013–14 | 1392 | 7,042.99 | 2,598.41 | 4,200.78 | 243.79 | 3,773.22 | 3,269.76 |
| 2014–15 | 1393 | 7,649.62 | 2,489.95 | 4,787.36 | 372.31 | 5,008.44 | 2,641.18 |
| 2015–16 | 1394 | 7,652.16 | 2,201.98 | 5,311.46 | 138.72 | 4,973.44 | 2,678.72 |
| 2016–17 | 1395 | 6,635.92 | 1,992.14 | 4,494.22 | 149.56 | 4,120.20 | 2,515.72 |
| 2017–18 | 1396 | 6,409.16 | 2,396.44 | 3,862.73 | 150.00 | 4,006.15 | 2,403.01 |
| 2018–19 | 1397 | 5,280.83 | 2,364.97 | 2,747.86 | 168.00 | 3,909.16 | 1,371.67 |
| 2019–20 | 1398 | 5,368.52 | 2,737.95 | 2,502.93 | 127.64 | 3,704.28 | 1,664.24 |
| 2020–21 | 1399 | 5,563.37 | 2,705.37 | 2,705.37 | 152.63 | 3,727.46 | 1,835.91 |
| 2021–22 | 1400 | 5,878.45 | 2,811.69 | 2,660.76 | 406.00 | 3,841.69 | 2,036.76 |
| 2022–23μ | 1401 | 2,650.00 | 2,150.00 | 0 | 500.00 | n/a | n/a |
| ***Grand Total*** | | 91,852.13 | 33,890.42 | 52,548.30 | 5,413.40 | 51,2019.17 | 34,113.74 |
| ***Percentage*** | | 1.00 | 0.37 | 0.57 | 0.06 | 0.6 | 0.4 |

*Source*: Author calculation. Value has been given by $US million. The exchange rate for each year has been provided in the budget draft.

* The local calendar is the Hijri calendar (1381), which starts from 21 March.

ϕ the data for the years 2002 and 2003 is extracted from the Asian Development Bank's report (ADB, 2003).

μ the data for the year 2022 is employed from the Voice of America News Chanel (Gul, 2022).

For the remaining years, the official website of the Ministry of Finance of Afghanistan and print copies of the National Budget Draft report have been utilized (Ministry of Finance, 2023)

Next, we split government spending into related and unrelated categories for the war in Table 6. We did not include the 2022–2023 budget in further analysis due to a lack of full information. The security sector is deemed to be either directly or indirectly associated with war, based on the national budget draft[7]. We also analyze the budget of

7 The security sector includes the Ministry of Defense, the Ministry of Interior Affairs, the Ministry of Foreign Affairs, the Intelligence Service, and the President's protection funds.

**Table 6**. Gross war-related and war-affected budget (in Million US$), 2002-2021

| Year* | | National Core Budget | War-related and war-affected institutions | | | | | | | Unallocated budget codes† | Other institutions |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | *Security*ⁿ | *Narcotic* | *Rural Rehabilitation* | *Education* | *Health* | *Martyries and disabled* | *Refugees and IDs* | | |
| 2002–03ϕ | 1381 | 1,803.80 | 583.92 | 5.32 | 116.04 | 237.44 | 76.70 | 5.00 | 4.74 | 117.26 | 608.60 |
| 2003–04ϕ | 1382 | 2,268.00 | 734.19 | 6.69 | 145.90 | 298.55 | 96.44 | 6.30 | 5.96 | 147.44 | 765.22 |
| 2004–05 | 1383 | 1,378.60 | 390.10 | 12.30 | 78.30 | 277.00 | 22.40 | 12.67 | 82.50 | 106.20 | 130.13 |
| 2005–06 | 1384 | 1,884.40 | 358.50 | 23.50 | 254.90 | 230.34 | 58.70 | 13.52 | 3.90 | 116.20 | 824.84 |
| 2006–06 | 1385 | 2,204.56 | 412.47 | 31.50 | 250.70 | 298.86 | 105.55 | 23.45 | 6.15 | 107.50 | 968.38 |
| 2007–08 | 1386 | 2,612.16 | 464.00 | 10.80 | 354.99 | 350.77 | 134.11 | 41.70 | 3.80 | 238.68 | 1,013.31 |
| 2008–09 | 1387 | 2,695.35 | 632.60 | 15.37 | 357.26 | 498.30 | 143.85 | 40.10 | 3.30 | 205.00 | 799.57 |
| 2009–10 | 1388 | 2,942.53 | 770.32 | 12.45 | 233.52 | 663.94 | 137.91 | 25.89 | 7.80 | 422.39 | 668.31 |
| 2010–11 | 1389 | 4,443.21 | 875.10 | 9.94 | 426.35 | 651.46 | 180.82 | 32.54 | 9.40 | 777.20 | 1,480.40 |
| 2011–12 | 1390 | 4,593.64 | 1,852.62 | 6.10 | 281.54 | 744.80 | 200.96 | 30.15 | 6.92 | 360.78 | 1,109.77 |
| 2012–13 | 1391 | 4,894.88 | 1,562.71 | 12.92 | 365.77 | 664.68 | 227.42 | 35.60 | 5.84 | 440.17 | 1,579.77 |
| 2013–14 | 1392 | 7,042.99 | 2,790.67 | 21.51 | 482.77 | 1,062.62 | 267.88 | 40.11 | 7.73 | 582.47 | 1,787.23 |
| 2014–15 | 1393 | 7,649.62 | 3,375.70 | 19.02 | 415.08 | 987.01 | 328.36 | 394.33 | 7.65 | 373.60 | 1,748.87 |
| 2015–16 | 1394 | 7,652.16 | 3,371.16 | 28.35 | 533.83 | 986.57 | 324.58 | 348.23 | 6.34 | 162.14 | 1,890.96 |
| 2016–17 | 1395 | 6,635.92 | 2,644.13 | 28.53 | 252.44 | 784.43 | 316.95 | 320.00 | 10.53 | 232.86 | 2,046.05 |
| 2017–18 | 1396 | 6,409.16 | 2,204.12 | 25.09 | 274.41 | 840.68 | 215.04 | 365.47 | 13.09 | 498.67 | 1,972.59 |
| 2018–19 | 1397 | 5,280.83 | 1,902.02 | 12.50 | 286.68 | 658.76 | 201.75 | 353.40 | 12.85 | 430.26 | 1,422.61 |
| 2019–20 | 1398 | 5,368.52 | 1,933.65 | 5.60 | 262.51 | 628.26 | 230.93 | 119.23 | 14.65 | 242.76 | 1,930.93 |
| 2020–21 | 1399 | 5,563.37 | 1,905.74 | - | 328.23 | 691.23 | 188.34 | 209.87 | 15.09 | 281.72 | 1,943.15 |
| 2021–22 | 1400 | 5,878.45 | 1,430.65 | - | 299.00 | 722.40 | 240.34 | 265.76 | 17.06 | 220.23 | 2,683.01 |
| ***Grand Total*** | | 89,202.13 | 30,194.37 | 287.49 | 6,000.21 | 12,278.10 | 3,698.02 | 2,683.32 | 245.31 | 6,063.53 | 27,483.77 |
| ***Percentage*** | | 1.000 | 0.338 | 0.003 | 0.067 | 0.138 | 0.044 | 0.030 | 0.003 | 0.068 | 0.308 |

*Source*: Author calculation: The value has been given as $US million. The exchange rate for each year has been provided in the budget draft.
* The local calendar is the Hijri calendar, which starts on March 21.
ϕ the data for the years 2002 and 2003 is extracted from the Asian Development Bank's report (only national budget value) (ADB, 2003). For the remaining years, the official website of the Ministry of Finance of Afghanistan and print copies of the National Budget Draft report have been utilized (Ministry of Finance, 2023).
ⁿ Security includes the budget share of the Ministry of Defense, the Ministry of Interior Affairs, the Ministry of Foreign Affairs, the General Directorate of National Security, and the President's protective service fund.
† Unallocated budget codes include pensions for martyrs and disabled, pensions for civil and military servants, contingency funds for military and defense, policy reserves, contingency funds for ministry and interior, and several others, some of which are directly related to war.

the Ministry of Narcotics, the Ministry of Martyrs and Disabled, the Ministry of Refugees and Internally Displaced, the Ministry of Public Health, the Ministry of Education, the Ministry of Rural Rehabilitation, and several unallocated budget codes as war-affected institutions. Table 6 shows that throughout the past years (2002–2021), 69.2% of the national budget was spent on sectors associated with and impacted by war, whereas 30.8% went to non-war-related institutions.

In Table 7, we estimate further the net war-related budget considering Table 6. The total allocated budget for the security sector in Table 6 may not be all related to war. For example, in the budget of 2007–2008, at least $464 million (17.7% of the national budget) was allocated to the security sector (see Table 6). According to the 2007–2008 budget draft, we calculated that $221 million (47%) of the security sector budget was allocated for defense, $178 million (38%) for the Ministry of Interior, $41 million (8.8%) for the ministry of foreign affairs, $7 million (1.5%) for president production, and $18 million (3.8%) for the general directorate of national security[8]. In another example, in the national budget of 2014–2015, the total amount of the security sector was estimated at $3,375.70 million (44.13% of the total national core budget). According to the budget draft, 55.64% was for defense, 35.43% for the Ministry of Interior, 5.9% for intelligence, and the remaining foreign minister and president's protection funds were distributed. On average, 88.8% of 2007's and 96.97% of 2014's security budgets were spent by three main security organizations (defense, interior, and intelligence). In conclusion, at least 92.88% of both years have been spent in three main, directly security-related ministries. We targeted the average of these two years (92.88%) in budget adjustments for the security sector in Table 7. Put another way, when estimating the net cost for the security sector in the subsequent step of Table 7, 92.88% of the security budget from Table 6 for all years is seen to be directly related to the war.

Furthermore, the budget of the Ministry of Narcotics, martyrs and disabled, refugees, and IDs are totally considered war-affected institutions in our net war cost estimation in Table 7. Due to the prolonged war, schools, roads, bridges, hospitals, and other public infrastructure have been completely or partially destroyed. Therefore, we assume that at least 45% of the budget of the Ministry of Rural Rehabilitation, education, and the Health Sector may be costed in war-affected projects. Similarly, as shown in Table 6, at least 6.8% of the total budget has been allocated to several unallocated budget codes. Unallocated budget codes include pensions for martyrs and disabled, pensions for civil and military servants, contingency funds for military and defense, policy reserves, contingency funds for the Ministry of Interior, and several others, some of which are directly related to war. We assume that at least 55% of this amount has been spent

8 The 2007 national budget draft. See https://www.mof.gov.af/dr/%D8%B3%D9%86%D8%AF-%D8%A8%D9%88%D8%AF%D8%AC%D9%87.

**Table 7**. Net estimation of the war-related budget of Afghanistan (in Billion US$), 2002–2021 with a ±5% error

| Year | (1) GDP, Total | (2) National core budget | (3) Security budget* | (4) War-affected sector budget** | 3+4 = 5 Total war-related budget | 5/2 Total war-related budget/ national budget ratio | 5/1 Total war-related budget/ GDP ratio | 2/1 National budget/ GDP ratio |
|---|---|---|---|---|---|---|---|---|
| 2002–03ϕ | 3.854 | 1.804 | 0.426 | 0.287 | 0.712 | 0.395 | 0.18 | 0.468 |
| 2003–04ϕ | 4.539 | 2.268 | 0.529 | 0.354 | 0.883 | 0.389 | 0.19 | 0.500 |
| 2004–05 | 5.221 | 1.379 | 0.683 | 0.347 | 1.030 | 0.744 | 0.22 | 0.264 |
| 2005–06 | 6.226 | 1.884 | 0.541 | 0.362 | 0.903 | 0.479 | 0.15 | 0.303 |
| 2006–06 | 6.971 | 2.205 | 0.639 | 0.420 | 1.059 | 0.481 | 0.15 | 0.316 |
| 2007–08 | 9.716 | 2.612 | 0.852 | 0.582 | 1.434 | 0.549 | 0.15 | 0.269 |
| 2008–09 | 10.250 | 2.695 | 0.962 | 0.632 | 1.594 | 0.591 | 0.16 | 0.263 |
| 2009–10 | 12.155 | 2.943 | 1.092 | 0.772 | 1.863 | 0.633 | 0.15 | 0.242 |
| 2010–11 | 15.634 | 4.443 | 1.449 | 1.086 | 2.535 | 0.571 | 0.16 | 0.284 |
| 2011–12 | 18.190 | 4.594 | 1.207 | 0.813 | 2.020 | 0.440 | 0.11 | 0.253 |
| 2012–13 | 20.204 | 4.895 | 1.284 | 0.888 | 2.172 | 0.444 | 0.11 | 0.242 |
| 2013–14 | 20.564 | 7.043 | 1.815 | 1.238 | 3.053 | 0.433 | 0.15 | 0.342 |
| 2014–15 | 20.551 | 7.650 | 1.997 | 1.429 | 3.427 | 0.448 | 0.17 | 0.372 |
| 2015–16 | 19.998 | 7.652 | 1.942 | 1.312 | 3.254 | 0.425 | 0.16 | 0.383 |
| 2016–17 | 18.020 | 6.636 | 1.561 | 1.110 | 2.671 | 0.402 | 0.15 | 0.368 |
| 2017–18 | 18.896 | 6.409 | 1.719 | 1.304 | 3.023 | 0.472 | 0.16 | 0.339 |
| 2018–19 | 18.419 | 5.281 | 1.514 | 1.156 | 2.670 | 0.506 | 0.14 | 0.287 |
| 2019–20 | 18.905 | 5.369 | 1.160 | 0.792 | 1.952 | 0.364 | 0.10 | 0.284 |
| 2020–21 | 20.143 | 5.563 | 1.334 | 0.940 | 2.274 | 0.409 | 0.11 | 0.276 |
| 2021–22 | 14.583 | 5.878 | 1.408 | 0.988 | 2.397 | 0.408 | 0.16 | 0.403 |
| ***Total*** | 283.039 | 89.202 | 24.113 | 16.813 | 40.926 | 0.459 | 0.15 | 0.315 |

*Source:* Author calculation: The value has been given as $US billion. The exchange rate for each year has been provided in the budget draft.

ϕ the data for the years 2002 and 2003 is extracted from the Asian Development Bank's report (only national budget value) (ADB, 2003). For the remaining years, the official website of the Ministry of Finance of Afghanistan and print copies of the National Budget Draft report have been utilized (Ministry of Finance, 2023). For the GDP the WDI dataset of the World Bank has been employed (World Bank, 2023).

* 92.88% of security budget from Table 6 is considered as directly related to war projects.

** Total budget of three ministries (Narcotics, Martyries and Disabled, and Refuges and IDs), 45% of the budget of the ministry of (rural rehabilitation, education, and the health sector), and 55% of the unallocated budget codes from Table 6, and the interest rate of the budget deficit from Table 5, with 1.41% is considered as war-affected costs.

on war-related projects. Moreover, the Afghan national core budget, at least 6% ($5.4 billion), has seen a budget deficit (see Table 5). Loans with varying interest rates were the primary means by which the Afghan government paid for this shortfall. For instance, the World Bank's debt service in 2004 was 0.75, the Asian Development Bank's debt service was 1%, and the Saudi Trust's debt service was 2.5, according to the draft budget for 2004–2005 (ADB, 2003). In comparison, the market rate for the year was 5%. We compute the cost of borrowing using the 1.41% average rate across three firms.

Table 7, focusing on the recent two decades (2002–2021), estimates the net war-related budget. The result indicates that at least $24 billion directly related to war costs and around $16.9 billion for directly war-affected institutions have been allocated. In total, at least $40.9 billion (45.9%) of the national budget ($283 billion) is allocated to war-related projects. The total war-related budget/total GDP ratio has reached 0.15. It implies that the war budget covers 15% of the total economy. Similarly, the national budget/total GDP ratio was calculated at 0.315. It explains that the national core budget over the course of the US presence was 31.5% of the total GDP (see Table 7). In conclusion, due to the estimation with a 95% significance interval, the whole budget for war-related expenses between 2002 and 2021 was predicted to be $40.9 billion. Our estimate shows that the Afghan government's expenditure during the US presence on war-related sectors was roughly 10.6 times higher than the GDP of 2002 ($3.854 billion) and 2.8 times higher than the GDP of 2021 ($14.583 billion).

## 7. Conclusion

Afghanistan a war-torn nation since the installation of a Soviet-backed government in 1978 suffered from ongoing conflicts that claimed nearly a million lives and forced 5.6 million people to flee to neighboring and Western countries. Moreover, 4.3 million internally displaced people, 2 million widows, 1.5 million disabled people, and 97% of the population live in poverty (see Table 3). These statistics indicate the stark human cost of war for Afghan civilians. Despite this, during both the American and Soviet periods, the nation received billions of dollars in both military and development support. The economic costs of war in Afghanistan for foreign nations have been significantly quantified. For example, the economic cost of war in Afghanistan for the USSR was roughly estimated at over $48 billion during 1980–1986 (CIA, 2000), and for the US taxpayer (2001–2022), over $2.3 trillion (Watson Institute, 2022). Yet, the economic costs of armed conflict for Afghan people have been addressed in the literature, which this study tried to cover. In our first approach, using UCDP and WDI datasets and OLS regression, we examine the impact of conflict on Afghan per capita income, 1978–2021. In our second approach, analyzing the National State Budget Draft, we quantify the economic cost of armed conflict for Afghan people, 2002–2021.

We separate the 45-year-long ongoing Afghan conflict into two categories: civil war and foreign military invasion war. We contend that a conflict with foreign support may have

a different economic impact than one that is domestic. The conqueror may provide the occupied country with both military and economic support in order for it to survive. In our second approach to assessing the economic cost of war for Afghan people, we focus on war-related and war-affected government budgets. In the literature, there is no generally accepted method for calculating the economic cost of war for a nation. By separating war-related government expenses from non-war-related ones, we estimated the net economic costs of war for Afghanistan.

We found that the one-year armed conflict in Afghanistan between 1978 and 2021, with an average of 17,661 battle-related deaths, significantly increased the Afghan GDP per capita by at least 1.9%. Furthermore, a one-year US-led armed conflict, relative to a USSR-led war, increases Afghan per capita income by at least 5.7%, and a one-year civil war decreases by 4.1%. In addition, the results suggest that the wartime Afghan per capita GDP was significantly associated with foreign aid and opium cultivation. Our findings point out that a foreign military invasion, in comparison to a civil war, has a significant and positive temporary effect on the local economy's expansion. Which follows the literature in the field such as Koubi, (2005), Olson (1982), Herbst (1990), and Murdoch & Sandler (2004) suggests there is a positive association between war and economic dynamics. Furthermore, our estimation of the economic costs of war shows that between 2002 and 2021, the national core budget for Afghanistan was over $89 billion, with roughly $40.9 ± 5% billion (45.9%) allocated to war-related and war-affected contexts. Our estimation also illustrates that the total economy between 2002 and 2021 is predicted to be $283 billion (see Table 7). We found that almost 15% of the total economy has been devoted to war-related expenses. In other words, the 20-year war-related budget ($40.9 billion) is equal to 10.6 times (1,062%) of 2002's and 2.8 times (280%) of 2021's total GDP in Afghanistan.

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