# Beyond Conflict Resolution: A Quantitative Analysis of the Economic Impact of Female Peacekeepers in Host Countries of United Nations Peacekeeping Operations

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# ***Beyond Conflict Resolution:*** A Quantitative Analysis of the Economic Impact of Female Peacekeepers in Host Countries of United Nations Peacekeeping Operations

Master Thesis

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## Abstract

In United Nations (UN) peacekeeping operations, female peacekeepers have a beneficial social influence in the host countries, underscoring the significance of female peacekeepers to the overall success of these missions. However, there is a lack of scholarly research investigating the impact of female peacekeepers on the economic expansion of host countries. By examining the relationship between the share of female peacekeepers and economic growth of host countries for UN peacekeeping operations carried out between 2006 and 2019, this thesis seeks to help close this research gap. This thesis will also test for additional factors that could affect the economic growth of a country where a UN peacekeeping operation is taking place. The research question and hypothesis are tested by conducting a random effects panel model to determine whether they have empirical support. The findings demonstrated a negative relationship between the number of female peacekeepers and economic growth in a host nation. However, when considering the nature of the relationship and the weak robustness of the results, additional research on the subject is necessary by including other variables that affect and explain the relationship with more accuracy.

**Keywords:** *Female Peacekeepers; Economic Growth; United Nations; Gender dynamics; United Nations Peacekeeping Operations; Post-conflict reconstruction; Peacebuilding strategies*

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# 1. Introduction

Over the past 70 years, United Nations (UN) peacekeepers from around the world have cooperated to bring security and stability to countries and regions that have endured violent conflict. Despite the challenges they face and their continual need to adapt to changing circumstances, UN peacekeeping operations are considered one of the most effective tools to combat threats to world peace and security (United Nations Peacekeeping, 2017). However, to prevent and manage complex conflicts, UN peacekeeping must reform and modernize in response to the 'new wars' and challenges brought on by armed fragmentation, decentralization of multiplication of fronts and factions, and varied internationalization of internal conflicts (Briscoe, 2014, p. 3). Thus, reforms for UN peacekeeping operations are required for them to be "stronger in prevention, more agile in mediation, and more nimble, effective and cost-effective" (United Nations Peacekeeping, 2017). In addition to modernization processes, the UN is attempting to identify the best approaches to maintain the trust of the local population in order for peacekeeping operations to be as effective as possible (Huber, 2022, p. 2). Increasing female participation in peacekeeping operations is one such method. Indeed, research shows that their presence lessens conflict intensity, fosters local community trust, minimizes battle-related mortality, and reduces sexual exploitation (United Nations Peacekeeping, 2017; Huber, 2022, p. 2). Furthermore, academic research generally agrees that women's engagement in peacekeeping has positive social consequences (Nagel et al., 2021). However, less scholarly attention has been paid as to how female peacekeepers – and peacekeeping operations in general – affect the economic development and growth of a host country (Bove & Elia, 2017, p. 712). This is particularly important since understanding how peacekeeping operations impact economic growth can point to measures to aid a nation's post-conflict rehabilitation and development. Additionally, peacekeeping operations foster a stable environment that enables the reconstruction of crucial infrastructure, which in the long run is necessary for the resumption of economic activity, such as trade and commerce, and for the delivery of essential services, such as healthcare and education. In light of this trend, the thesis seeks to fill this gap and employs an explanatory research model to empirically evaluate the relationship between female peacekeepers and the growth of economy in the host country.

Thus, this thesis intends to investigate the following research question: "*Is there a relationship between female peacekeepers and the economic growth of a host country?"*

This research question holds both societal and academic relevance. The study is socially relevant because of how female peacekeepers are inextricably linked with preserving a lasting peace (United Nations, n.d.). The emphasis within UN networks has moved more toward highlighting the significance of female peacekeepers as the UN looks for ways to improve the effectiveness of their peacekeeping missions (Huber, 2022, p. 2). As a result, recent research has mainly concentrated on the advantages of deploying more female peacekeepers in actual UN peacekeeping operations. However, the focus in academic literature is primarily on how female peacekeepers or peacekeepers per se influence the social components of host countries, such as by leading to a decrease in battle-related deaths, an increase in education rates, and a reduction of sexual exploitation (United Nations Peacekeeping, 2017; Huber, 2022, p. 2). Nevertheless, there is a lack of research regarding how female peacekeepers might also influence the more economical aspects in host countries. As a result, by attempting to close this research gap, this thesis also provides academic relevance.

Moreover, investigating this research question is crucial to fully comprehend the effectiveness of UN peacekeeping operations, particularly in light of the benefits that female peacekeepers provide. Thus, it can be regarded as a 'relationship-based research question' because the quantitative nature of the thesis seeks to determine whether the two main variables have a relationship (British Library, n.d.). It has been demonstrated that female peacekeepers are essential to the social aspects of peacekeeping operations, such as gaining better access to the local population to learn about potential security risks, fostering trust and confidence in local communities, and assisting in the prevention and mitigation of conflict and confrontation (Bigio & Vogelstein, 2018; United Nations Peacekeeping, n.d.). Therefore, it is crucial to determine how this affects economic growth because it can be anticipated that through enhancing the social components, the presence of female peacekeepers could favorably influence economic prosperity.

By conducting a random effects regression model using unbalanced panel data, this thesis provides an answer to its research question. With this methodological approach, it is possible to explore both time-series and cross-sectional variation, which improves the estimates' accuracy and boost the analysis' statistical power. For the purposes of this thesis, the panel data examines how female peacekeepers have affected economic growth over time and among various host countries. Additionally, because random effect regression models also account for other variables that might affect the outcome variable, it is possible to get a more

precise response to the research question by including several control variables in addition to the primary independent and dependent variables.

Due to data availability and research feasibility, this thesis examines nearly all UN peacekeeping missions carried out in the years between 2006 and 2019 (apart from UNMHA in Yemen due to missing values). The decision to examine nearly all UN peacekeeping operations during this time period was made so as to approach the research question holistically, without limiting the study to specific geographic regions. As a result, the random effect regression model incorporates data from a total of 35 UN peacekeeping operations while also integrating several control variables to mitigate confounding effects. Other measures of economic wealth, democratic-related elements, and variables representing the level of conflict are among these control variables.

By using quantitative analysis, this thesis seeks to fill a research gap on whether there is a relationship between female peacekeepers and the growth of the economy in host countries. In doing so, the thesis also challenges the assumption that because women have a positive impact on matters of societal concern, they are also beneficial for the economic growth of a host country. This assumption must be contested because it is a generalization that may not always be accurate. This is particularly true given that there may be several factors influencing the relationship between female peacekeepers and economic growth, which could have a different impact than the relationship between female peacekeepers and the social components of a host country.

Accordingly, the results of a random effects regression model show that economic growth and the presence of female peacekeepers have a negative relationship. In other words, increasing the number of female peacekeepers on UN peacekeeping operations benefits the social aspects, but not automatically the economic facets of a host country. It becomes therefore clear that control variables are crucial for the accuracy of the outcome. The thesis concludes with the research result that demonstrates a negative relationship between female peacekeepers and economic growth in a host country, thereby confirming the thesis's hypothesis that there is a relationship between the two variables.

The structure for this thesis is as follows. The literature review in **Chapter 2** provides background information for the research question, specifically regarding prior research on UN peacekeeping, the effect of female peacekeepers, and economic growth and development as a result of peacekeeping. It also points out the research gap that this thesis aims to fill. The theoretical framework is presented in **Chapter 3,** with a primary focus on the thesis' hypothesis and the inferences that can be derived regarding this study. A description of the methodology, including the variables to be used, their operationalization, measurement, case selection, and data analysis, is presented in **Chapter 4. Chapter 5** presents the thesis' results. In **Chapter 6**, the results of the thesis are discussed. The findings are analyzed, clarified, and suggestions for further study are included. Finally, **Chapter 7** offers concluding remarks, addresses the research question, and describes any possible research limitations.

## 2. Literature Review

The following literature review provides an overview of the previous academic work related to the impact of female peacekeepers for the effectiveness of UN peacekeeping missions. Before analyzing academic studies on female engagement in UN peacekeeping operations, and the economic growth and development of host countries, it is essential to first shed light on the literature on UN peacekeeping operations and their effectiveness in general (see Fortna & Howard, 2008; Diehl, 1988; Diehl & Druckmann, 2010; Dorussen, 2014). Doing so is necessary because a general understanding of the effects of peacekeeping operations on a host country are foundational for the remainder of the thesis. Following this, the literature review ends by describing the research gap that this thesis seeks to fill — a gap regarding economic growth achieved through peacekeeping, and more specifically, what effect female peacekeepers have on economic growth. Closing this research gap is essential for better explaining the effectiveness of UN peacekeeping missions as a whole, advancing the cause of gender equality, promoting diversity in peacekeeping, and also revealing what other factors would be crucial to improve the economic situation in conflict-affected nations.

### *2.1. United Nations Peacekeeping Operations*

Since 1948, over 70 peacekeeping operations have been approved by the UN Security Council (UNSC) (Di Salvatore & Ruggeri, 2017). The success of peacekeeping operations has received widespread academic recognition for its contribution to long-term peace, the reduction of one-sided violence, the mitigation of potential violent spillover to neighboring countries, and the improvement of the host countries' human rights (Karim, 2019, p. 23). Some peacekeeping operations have yielded more success than others since their contexts are often so distinct, which can impact the capacity of operations to effectively ameliorate conflict (Di Salvatore & Ruggeri, 2017). However, in general, peacekeepers are characterized as "benign and altruistic" (Whitworth, 2004, p. 2).

Although peacekeeping operations have been carried out for decades, its general definition remains unclear (Koops et al., 2015, p. 2; Ramsbotham, 2016, p. 175). The question of which UN Charter Chapter oversees peacekeeping operations raises the same issue. The academic and policy consensus is that peacekeeping operates in between Chapter VI "Pacific Settlement of Disputes", Chapter VII "Action with Respect to Threats to the Peace, Breaches

of the Peace, and Acts of Aggression" and Chapter VIII "Regional Arrangements" (Ramsbotham, 2016, p. 175; Charter of the United Nations, 1945). This unequivocally illustrates that UN peacekeeping operations are a complicated issue, not contained in just one particular UN Charter chapter. It also shows how peacekeeping operations under Chapters VII are frequently connected to a higher level of violence in the host nation, necessitating the need for a more robust mandate and the authorization for the use of force (Medecins sans frontieres, n.d.). In general, the goal of peacekeeping operations is to help achieve a stable state of peace through "the medium of a peaceful third-party intervention organized and directed internationally, using a multinational force of soldiers, police, and civilians to restore and maintain peace" (International Peace Academy, 1984, p. 22). This was further scholarly elaborated on by adding that peacekeeping's main objective is to serve as "a physical barrier between hostile parties and monitoring their military movements" and "to create a stable environment for negotiations" (Diehl, 1988, p. 487).

The UN peacekeeping system underwent an institutional change under the administration of former UN Secretary-General Boutros-Ghali as a result of the end of the Cold War; moving from traditional to multidimensional peacekeeping operations (Allee, 2009, p. 85). The complexity of UN peacekeeping operations and the environment in which they were operating at the time contributed to this change (Newby, 2022, p. 305). Armed conflicts were increasing globally, and the previous approach to the operations was no longer sufficient to solve them. This is a result of the fact that traditional peacekeeping missions focused primarily on observing and monitoring ceasefires. As conflicts grew more intricate, multifaceted, and involved numerous actors, traditional peacekeeping missions ceased to be effective because they could not fully address the underlying causes of the conflict and bring about a lasting peace anymore (Allee, 2009; Newby, 2022, p. 305). As a result, reform was necessary for making peacekeeping operations more effective (Koops et al., 2015, p. 6). Thus, these multidimensional peacekeeping missions aim to fill the void that traditional peacekeeping missions were no longer able to. The new concept of the missions goes beyond monitoring and observing as it involves the facilitation of "political process, protect civilians, assist in the disarmament, demobilization [...], support the organization of elections, protect and promote human rights and assist in restoring the rule of law" (United Nations Peacekeeping, 2022). Furthermore, hostilities within the field where UN peacekeeping operations operate are on the rise and rivalries emerging in the UN system, between the *Department of Peace Operations* (DPKO) and the *Department of Political and Peacebuilding Affairs* (DPA). Such rivalries

highlight further complications for the effective execution of peacekeeping operations (Koops et al., 2015, p. 7). However, even though these aspects might challenge the effectiveness of UN peacekeeping operations, studies have shown that the presence of peacekeepers overall lowers the risk of recurring wars and reduces conflicts, thus helping to create the groundwork for a lasting peace (Clayton & Dorussen, 2021, p. 163). This reduction in violence is mostly achieved through two means: the operations' *type* of mandate, as well as the *size* of the mission in terms of budget and troop strength (Hegre et al., 2019, p. 217).

Despite the general agreement in academia and policy circles that peacekeeping operations are one of the most important tools for establishing a lasting peace (Fortna, 2004; Doyle & Sambanis, 2010; Sambanis & Doyle, 2007; Doyle & Sambanis, 2008), there are a variety of difficulties that are brought on by the complexity of conflicts. Given this complexity, peacekeeping operations must undergo internal resorganization, otherwise they risk decreasing their overall efficacy (Koops et al., 2015, p. 7; Bellamy et al., 2004, pp. 129-130; Whitworth, 2004, p. 13). Gender-related crimes and gender inequality are two of these challenges. These challenges appeared in the 2000s due to the rising cases of sexual exploitation and gender-based violence present in peacekeeping operations, which consequently harmed the reputation of the operations (Valenius, 2007, p. 510; Hebert & Svedberg, 2012). In an effort to be more gender-sensitive and potentially increase the participation of women in peacekeeping operations as a means of minimizing gender-based violence, the UN addressed this problem and produced documents relating to mainstreaming a gender viewpoint (Olsson, 2005, p. 169; Valenius, 2007, pp. 510-511).

There was previously very little academic research on women's participation in peacekeeping operations, but after the adoption of Resolution 1325 (Women, Peace and Security), attention began to shift. Discussions on how women's participation affects peacekeeping operations' overall effectiveness increased, highlighting the need for more women peacekeepers, particularly in light of the operation's success (Karim & Beardsley 2013, p. 462; Beardsley 2017; Olsson & Gizelis 2014; Karim, 2019, p. 25).

### *2.2. Female Participation in Peacekeeping*

Academic research on women's engagement in peacekeeping is relatively new, since 'gender' only became a cornerstone of the discussion when Resolution 1325 was adopted in

2000 (Karim, 2019, p. 25; Puechguirbal, 2015, p. 254). The Resolution calls for gender mainstreaming across all peacekeeping operations, as well as equal participation of men and women in order to better sustain long-term peace and security (Newby & Sebag, 2020, p. 151). Since the lack of equal gender representation was hindering the overall efficiency of UN peacekeeping operations, the organization began adopting a more gender-sensitive strategy, realizing that women's participation is crucial to attaining the very objectives of the operations (Karim & Beardsley, 2013, p. 465). Despite such efforts, even more than 20 years following the adoption of Resolution 1325, the number of female peacekeepers — particularly military personnel — is still very low (Newby & Sebag, 2020, p. 148).

However, since female personnel are particularly beneficial in peacekeeping operations due to their "ability to control aggression" (DeGroot, 2001, p. 24) and their ability to better gain locals' trust, much of the general academic and policy focus has shifted to the positive aspects of female participation. This has improved the reputation of peacekeepers among the local populations where they work (Bridges & Horsfall, 2009, p. 120). Additionally, UN peacekeeping operations are viewed in local and UN settings as more legitimate when more female peacekeepers are present. This is because women are generally perceived as less violent and more altruistic than men; as a result, having more women present could make operations appear more dependable and equitable (Huber, 2022, pp. 2-3).

Female peacekeepers have a positive impact on UN peacekeeping deployments, as they can establish stronger rapport with locals stemming from their superior communication and problem-solving skills (Kronsell, 2012, p. 91; Sharland, 2019), and in turn "mak[ing] the peacekeeping missions more approachable for the host population" (Karim, 2017, p. 825). Furthermore, as women are viewed as being more compassionate and involved in local communities, overall operational effectiveness rises through their participation (Alchin et al., 2018, p. 5). Further, female peacekeepers have been found to be perceived as "softer, more peaceful, and more prone to cooperation" than their male counterparts (Kronsell, 2012, p. 106).

Furthermore, utilizing force with more remarkable restraint and caution has also been shown to generally alter public perceptions of peacekeepers (Flén & Terävä, 2010, p. 93). While the number of women participating in peacekeeping operations rises, so will operational efficacy, as seen by declines in rape reports, cases of gender-based violence, and battle-related fatalities (Simić, 2010). This finding is further supported in a study by Karim and Beardsley

(2016), who discovered that having more women on staff can be linked to fewer incidents of gender-based violence. Since women are better able to connect with local populations, have better situational awareness, and foster trust, they contribute more to the implementation of agreements, sustainable peace, and enhanced operational performance. Hence, putting women in leadership positions, such as leading a peace operation as Special Representatives of the Secretary-General (SRSG), becomes even more crucial (Pfaffenholz et al., 2015; Krause et al., 2018, p. 1005; Bigio, 2020).

Despite the widespread belief that women's presence in UN peacekeeping operations may increase the overall efficacy of those missions, other scholars are nevertheless reluctant to draw firm conclusions (Jackson et al., 2003, p. 277; Flén & Terävä, 2010, p. 94). As peacekeeping operations can also take different forms, such as being more conflict-intense and less observational, increased female participation may not necessarily lead to improved outcomes (Jeffreys, 2007; Jennings, 2008; Simić, 2010). Resultantly, there is not an unwavering academic assumption that attempting to balance gender in UN missions always enhances the positive influence these operations have on host countries (see Baldez, 2006; Bhavnani, 2009; Caul, 2001). This reality can be attributed to the fact that much attention is currently being paid to the social impacts that female peacekeepers have on host countries, rather than on their overall effects, such as their effects on economic growth. In addition to working to improve a country's social conditions, such as its mortality and education rates, the battle-related deaths, and the construction of democratic institutions, peacekeeping operations also work to advance the host nation's economic development and expansion (Bove & Elia, 2017, pp. 714-715). That said, other factors may be considered, such as the economic growth of a host country, to properly comprehend if women do, in fact, favorably impact dynamics in the host country. However, this question has not yet been evaluated in the current academic literature available on female participation in UN peacekeeping operations. Instead, the prevailing focus has remained on the social impact female peacekeepers have on the host countries.

### *2.3. Economic Growth through Peacekeeping*

Given that security encourages investment in the local economy, peace and security can act as a cornerstone of economic growth, emphasizing the strong relationship between both forces (Zannier, 2015; Carnahan et al., 2006, p. 1; Bove & Elia, 2017, p. 712). This is also

evident as UN peacekeeping operations "do more good and less damage, in economic terms, than is commonly believed" since there is an "immediate upsurge in economic activity" stemming from the presence of operations (Carnahan et al., 2006, p. 1).

While the academic and policy focus is often on the economic development of peacekeeping, including its public spending and budget, little scholarly work has examined how such missions affect the economic growth of host countries after troop deployment (Bove & Elia, 2017, p. 712; Caruso et al., 2017, p. 253). Consequently, there is the need to expand on this knowledge, particularly in light of the shift from traditional to multidimensional peacekeeping operations (Dorussen & Gizelis, 2013, p. 691). It is therefore unsurprising that in 2014, an *Independent High-level Panel on UN Peace Operations* was established, focusing on how "inclusive and equitable economic development" must be a pillar for sustaining peace, and thereby indicating that the UN needs to consider economic impacts of operations more closely (Bove & Elia, 2017, p. 713; United Nations, 2015, Art. 38a). Despite this, the emphasis is on the necessity of stability in a state in order to build the groundwork for economic growth and thus strengthen the host country. Peacekeeping operations are necessary to achieve this security (Bove & Elia, 2017, p. 714). This foundation can also be established by involving more women in UN peacekeeping, as they are more likely to develop stronger relationships with the local populations, which will enable them to engage strategically and create long-lasting partnerships and networks with all relevant actors (UN Women, 2013, p. 10). One way to do this is by promoting more gender-inclusive approaches that will allow for greater participation of women in decision-making, which can have an impact on the country's economic prospects (UN Women, 2013, p. 10). The precise ways in which women's participation can fuel economic growth are examined more in **Chapter 3,** the theoretical framework.

Furthermore, growing economies help lay the foundation for a country's overall stability and security, which in turn reduces the risk of recurring wars. For this reason, it seems logical that the UN should focus more on providing economic growth in addition to security assistance (Bove & Elia, 2017, p. 712). This point is underscored by the fact that if peacekeeping operations effectively produce a secure environment, then the mission will likely set the groundwork for economic development (Bove & Elia, 2017, p. 713).

Thus far, the effects of peacekeeping operations have been primarily analyzed (Carnahan et al., 2006; Mvukieyehe & Samii, 2010; Smith, 2014; Abadie & Gardeazabal, 2003). Yet, there remains a great lack of academic literature that specifically investigates how peacekeeping operations impact the economic growth of a host country, especially after missions have taken place (Caruso et al., 2017, p. 253). By including the value of female participation in the equation and examining their impact, this thesis attempts to fill this research gap by expanding on Bove & Elia's (2017) approach, in which they tested whether UN peacekeeping helps lay the groundwork for economic development and growth.

After carefully considering the existing literature, it became evident that academic literature has specifically been concerned with how UN peacekeeping operations and female peacekeepers impact host countries' social- and security-related components. This literature has discovered that the presence of female peacekeepers has indeed helped improve these areas, particularly the ones referring to the social components of a host country such as reduction of sexual exploitation, reduction of battle-related deaths and an increase in pulic trust (Huber, 2022, p. 2, Simić, 2010; United Nations Peacekeeping, 2017). However, there is a glaring gap in the body of knowledge about how these peacekeeping operations affect economic growth in a host country, particularly on the potential benefits of female engagement.

## 3. Theoretical Framework & Hypothesis

Based on the literature review, the empirical research for this thesis suggests that female peacekeepers are vital to the social structure of a host country. Therefore, understanding how they might impact economic growth in a host country is also crucial. Hence, this thesis adopts an explanatory approach to investigate the claim that female peacekeepers do, in fact, have a favorable impact on economic growth. While there is no direct theoretical link between female peacekeepers and economic growth just yet, this thesis builds upon previous research suggesting an increase in — and the presence of — female peacekeepers foster peace and stability by enhancing social components (Huber, 2022, p. 2). Therefore, it is also possible that the presence of female peacekeepers may have a positive impact on economic growth given that overall stability, particularly political stability, in the respective country is necessary for the domestic economy to expand (Nomor & Iorember, 2017, p. 45; see Alesina & Perotti, 1996). In light of this, this thesis is based on a theoretical framework rooted in the understanding that the presence of female peacekeepers improves social dimensions of a host country, such as overall stability, reducing battle-related deaths, increasing education rates, and fostering trust with the local community (United Nations Peacekeeping, 2017; Huber, 2022, p. 2; Simić, 2010). Such social dimensions can thereby act as channels through which economic growth can also be influenced.

The capacity of female peacekeepers to improve social factors in host countries, therefore, may enable opportunities for the growth of the domestic economy. Thus, the improvement in social conditions can be seen as 'channels' to further influence economic conditions. In particular, some of the improved social components can include an increase in education rates, a decline in battle-related fatalities, and an increase in trust-building. Together, such factors may lead to an overall improved political, economic, and social stability in the respective countries. Therefore, this theoretical framework posits the presence of female peacekeepers provide social benefits in a host country, which can in turn also have an effect on economic growth.

Several academic studies have discussed how an improvement in the social dimension can also influence economic growth. Several channels connecting an improvement in social factors, to an influence on economic growth, have been identified. For instance, Gyimah-

Brempong et al. (2006) argue that the accumulation of human capital is the primary driver of economic growth. This study employed a panel data regression to examine how higher education in human capital affects growth rates in African nations. Modern growth theory also emphasizes that human capital has a positive and statistically significant impact on economic growth (Gyimah-Brempong et al., 2006, p. 510). Thus, investing in education as human capital can increase worker productivity, which in turn increases economic production. Moreover, education is one of the most significant inputs for a country's economic outcomes (UNESCO, 2011, p. 102). In addition to fostering innovation, education can also enhance more trust in political systems and create a more stable political climate (Ugur-Cinar et al., 2020, p. 780). Therefore, education is crucial for laying the groundwork for economic growth. In the context of this thesis, this evidence would support the claim that as female peacekeepers raise the education level in their host nations, economic growth may also increase.

Another channel that can foster economic growth is derived from the notion that fewer combat-related deaths can improve economic performance. Battle-related fatalities are frequently used to gauge the severity of a conflict (Mueller & Tobias, 2016, pp. 2-3). Combat-related deaths can result in the loss of human capital and can reduce the overall workforce — this, in turn, lowers productivity, innovation, and economic growth. Mueller's (2013) work supports this premise by demonstrating how economic growth sharply declines as the number of fatalities from armed conflict rises. In the worst circumstances, states lose a significant amount of their economic capacity, as was the case with the Syrian economy, which produced less than 20–38 billion US Dollar per year of conflict (Mueller & Tobias, 2016, p. 3; Fang et al., 2020, p. 3). Therefore, minimizing and containing the economic damage caused by conflict is essential for the long-term growth of the economy (Mueller & Tobias, 2016, p. 3). Hence, conflict intensity does impact a country's economic growth. Additional studies have confirmed these ideas, demonstrating that the annual economic growth in nations with high conflict intensity — and consequently, more deaths from combat — sits around 2.5 percentage points lower than in nations with lower conflict intensity (Fang et al., 2020, p. 3). Hence, deaths from combat have a variety of detrimental effects on economic growth, particularly in terms of decreased output, lost human capital, and decreased consumption (see De Groot et al., 2022). Since academic literature has demonstrated that the presence of female peacekeepers can reduce battle-related deaths, economic growth, in turn, may also be impacted favorably.

Another social dimension that female peacekeepers positively influence is the increase in trust from local community members (Bigio & Vogelstein, 2018; United Nations Peacekeeping, n.d.) which in turn is essential for achieving overall stability in the host country. Importantly, this thesis emphasizes the value of local population trust rather than trust that is pertinent to foreign investment. General trust from the local population can function as another pathway for enhancing economic growth and success. A nation's ability to innovate and produce more goods and services can improve significantly against the backdrop of greater public trust (Storonyanska et al., 2022, p. 3). In other words, people are more willing to participate in activities that encourage innovation when there is a high level of public trust. Thus, greater trust leads to a more prosperous society. Building public trust also can impact a government's ability to function, since people are more inclined to support policies that encourage economic growth when they believe in their government (OECD iLibrary, 2013, p. 20). This said, public trust functions between individuals as well as between individuals and institutions. In turn, this can lead to more effective policies and higher economic growth. Therefore, facilitating community trust can help promote stronger innovation and productivity, thereby improving economic growth.


**Figure 1:** Diagram for Social Components acting as Channels for Economic Growth

To summarize, the presence of female peacekeepers can improve social components, which can then serve as channels to influence economic growth in a host country. This thesis therefore builds its arguments on this theoretical premise. The following testable hypothesis thus results from this theoretical framework:

| | | |
|---|---|---|
| *H0:* | There is **no** relationship between female peacekeepers and the economic growth of a host country. | $\beta = 0$ |
| *HA:* ***(Hypothesis 1)*** | There is a relationship between female peacekeepers and the economic growth of a host country. | $\beta \neq 0$ |

# 4. Methodology

This chapter discusses the methodology used in examining whether female peacekeepers and economic growth are related. The chapter first presents the *Research Design,* to be followed by the *Case Selection* and *Sampling* and the *Measurement and Operationalization* of the dependent, independent and control variables. Finally, this chapter describes the *Method Analysis* and the procedures used to gather and code the data.

## *4.1. Research Design*

This empirical research aims to examine the relationship between female peacekeepers and the host country's economic growth. Resultantly, this thesis employs a quantitative approach and makes use of a wide range of data, including information for all variables from different countries, UN peacekeeping operations, years, and other pertinent factors. How the data was collected and other details about it will be further explained in **Chapter 4.4.1**. The data used to test this effect is compiled from multiple datasets; thus, this compilation forms a unique dataset that contributes to the study of female peacekeepers in general, and in particular, female peacekeepers' relationship to economic growth and other economic wealth indicators. This thesis applies the random effects regression model by using panel data to test how this one component affects the other over a specific timeframe and different location, thereby responding to the research question and testing the hypothesis of whether there is a relationship between female peacekeepers and the economic growth of a host country.

The most suitable approach for this study is panel data. Panel data is used, given that it aligns with this thesis' investigation of cross-sectional observations tracked over time. In addition, panel data provides several benefits, including its ability to better capture the complexity of human behavior, to provide more accurate inferences of model parameters, and to allow for the possibility of observing the real impact of one factor by comparing the before-and-after effects (Hsiao, 2005, p. 146). Furthermore, panel data creates "more variability [...], alleviating multicollinearity problems" and thus gives more efficient estimation for the research (Kennedy, 2008, p. 282). A random effects regression model is employed to analyze this panel data since it is a strong tool for explanatory research (Kennedy, 2008, p. 284) and is accountable for the variability in study outcomes (Berkey et al., 1995, p. 395). The choice to conduct a random effects regression model was made as a result of a *Hausman-test* that demonstrates that

continuing with random effects rather than a fixed effects model is more appropriate as $p>0.05$. Since $p>0.05$, the null hypothesis indicating that the random effects model is more consistent for this research is validated. However, a pooled Ordinary Least Squares (OLS) regression and a fixed effects model are also run in the process of coding for the purpose of comparison. This decision and the outcomes of the tests to determine whether to employ a pooled OLS, fixed, or random effects model will be covered in more detail in **Chapter 5.2.5**.

When dealing with longitudinal or panel data, where individuals or groups are tracked over a longer time span, panel data analysis is frequently utilized. In addition, this model is employed when random draws from a broader population of interest are taken into account and can be seen as "considered outcomes of a process identified with the model that is predicting them" (Gelman & Hill, 2006, p. 2). Furthermore, incorporating random effects allows for a better distribution of variance within the model and provides more information from the data (Midway, 2022). Since this thesis takes panel data into account seeking to identify various relationships between the main independent, dependent, and control variables over a longer timeframe, the random effects regression model is thus a suitable methodological approach for this research.

To ensure that this thesis' conclusions are as accurate as possible, it is also critical to note potential threats to internal and external validity. Internal validity concerns the accuracy of the relationship between the independent and dependent variables — determining whether the relationship is genuinely existent and identifying potential threats that might influence the findings regarding the relationship (Campbell & Stanley, 1963, p. 5). External validity, in contrast, is the study's generalizability and, consequently, its potential applicability to different populations and contexts of interest (Findley et al., 2021, p. 365). Thus, external validity is more concerned with "identifying [...] relationships that are either universal or contingent on theoretically relevant and specifically named [...] settings" (Chaplin et al., 2018, p. 404). This thesis has a potentially high level of internal validity because it is controlled for several confounding factors, which are discussed and explained in **Chapter 4.3.3**. These control variables are crucial for achieving high internal validity (Fallon, 2016, p. 9), since only investigating the relationship between the main independent and dependent variables may produce a non-linear relationship, excluding potential additional factors that might influence the effects variables have on each other. This could cause spurious or misleading results

(Fallon, 2016, pp. 9-11). Therefore, including several control variables allows for a more accurate estimate of the relationship between female peacekeepers and economic growth.

This thesis' research also checks for outliers to support this high level of internal validity, as outliers may also significantly impact the estimates of the regression coefficients, which would affect the model's accuracy and reliability and result in incorrect predictions and interpretations (Fallon, 2016, pp. 10-11). Checking for outliers is not only essential for internal validity, but also for external validity, as they can affect the generalizability of the model to other populations or settings (Hanasono, 2017, p. 481). In general, this applied methodological approach has external applicability to other peacekeeping missions. However, external validity may be at risk because of potential differences between the studied population and the population of interest (Hanasono, 2017, p. 481). While the results of this study may be relevant to other peacekeeping operations, they are not necessarily generalizable to other kinds of interventions. Additionally, the study's external validity may also be in jeopardy because the findings may only apply to the time period under study and may not be generalizable to other time periods due to variations in the circumstances and characteristics of peacekeeping missions. Nevertheless, as this research examines several missions, checks for outliers and thus tests across multiple populations, it is feasible to determine whether the results are consistent. By doing so, concerns to external validity are limited. However, some limitations still remain, which will be discussed in **Chapter 6**. This said, threats to internal and external validity, reliability, and generalizability are minimized and the results of this research are more precise and applicable to a wider range of situations by including relevant variables to control and limit the influence of other factors on the dependent variable as well as checking for outliers and looking at different populations.

### *4.2. Case Selection and Sampling*

This thesis examines 35 UN peacekeeping missions (**Table 1**) from 2006 until 2019. Although there were also other peacekeeping missions throughout the covered period, the decision was made to select the following 35 since the missions that were left out had some missing values that made them unsuitable for this research. Importantly, some of the 35 missions are identical but have undergone a name change or mandate extensions during the course of their existence. However, the decision was made to use the mission's actual name at the time and to retain all missions within this timeframe, thus providing a total of 35 UN

peacekeeping missions. This number results from the fact that the thesis examines the overall picture of peacekeeping operations rather than a few particular missions, and therefore, it is essential to examine every mission – including observing and not solely military missions – that occurred during that time period. This is especially important, since not all missions are completed in the same regions and thus might have different outcomes depending on their context and conflict complexity. However, it is important to highlight that the UN peacekeeping mission in Yemen (UNMHA) had to be removed from the dataset since it contained missing values for the research's dependent variable. This said, this thesis will cover a wide range of robust as well as overseer UN peacekeeping missions from 2006 to 2019. By including nearly all missions of this time period, it is possible to have a holistic treatment of the research question without restricting the study to certain geographical regions. The pool of data is therefore larger, which provides for a relatively well-powered sample and makes the results more generalizable.

| **Mission Name** | **Country Name** | **Deployment Period** |
|---|---|---|
| BINUB | Burundi | 2007 - 2010 |
| BINUH | Haiti | 2019 - present |
| MINUJUSTH | Haiti | 2017 - 2018 |
| MINURCAT | Central African Republic/Chad | 2007 - 2010 |
| MINURSO | Morocco | 1991 - present |
| MINUSCA | Central African Republic | 2014 - present |
| MINUSMA | Mali | 2013 - present |
| MINUSTAH | Haiti | 2004 - 2017 |
| MONUC | Democratic Republic of Congo | 1999 - 2010 |
| MONUSCO | Democratic Republic of Congo | 2010 - present |
| ONUB | Burundi | 2004-2006 |
| UNAMA | Afghanistan | 2002 - present |
| UNAMI | Iraq | 2003 – present |
| UNAMID | Sudan | 2007 - 2020 |
| UNDOF | Syrian Arab Republic | 2974 - present |
| UNFICYP | Cyprus | 1964 - present |
| UNIFIL | Lebanon | 1978 - present |
| UNIOGBIS | Guinea-Bissau | 2010 - 2020 |
| UNIOSIL | Sierra Leone | 2005 - 2008 |

| | | |
|---|---|---|
| UNISFA | Sudan/South Sudan/Ethiopia | 2011 - present |
| UNMEE | Ethiopia/Eritrea | 2000 - 2008 |
| UNMIK | Kosovo | 1999 - present |
| UNMIL | Liberia | 2003 - 2018 |
| UNMIN | Nepal | 2007 - 2011 |
| UNMIS | Sudan | 2005 - 2011 |
| UNMIT | Timor-Leste | 2006 - 2012 |
| UNMOGIP | India/Pakistan | 1949 - present |
| UNOCI | Côte d'Ivoire | 2004 - 2017 |
| UNOMIG | Georgia | 1993 - 2009 |
| UNOWAS | Senegal | 2016 - present |
| UNSMIL | Libya | 2011 - present |
| UNSOM | Somalia | 2017 - present |
| UNSOS | Somalia | 2009 - present |
| UNTSO | Israel/Palestine | 1948 - present |
| UNVMC | Colombia | 2017 - present |

**Table 1:** United Nations Peacekeeping Operations for the period between 2006-2019

The timeframe of 2006 to 2019 was chosen since it reflects the most recent period of time when operations have occurred, and it coincides with the availability of data on female involvement and the data for some control variables. Additionally, it is important to note that specific UN peacekeeping operations frequently took place or continue to take place in multiple countries rather than just one. As a result, operations like UNTSO (Israel & Palestine), UNMOGIP (India & Pakistan), UNMEE (Ethiopia & Eritrea), MINURCAT (Central African Republic & Chad), and UNISFA (Sudan, South Sudan & Ethiopia) are coded and used two or three times, depending on how many countries the particular operation takes place in.

Another crucial aspect to identify concerns the status of partially or not recognized states, which in this thesis include Kosovo, Palestine, and Western Sahara. This thesis uses information from those three states that are not or just partially recognized by other states due to the significance of conflict in these areas and the prevalence of UN peacekeeping operations. However, due to a lack of availability and consistency in data, data for Kosovo comes directly from Kosovo. Data for Western Sahara is retrieved from Morocco, as the majority of Western

Sahara's territory is currently controlled by Morocco (Kalicka-Mikolajczyk, 2020). Additionally, data for Palestine is compiled from both the West Bank and Gaza, and Palestine itself.

This thesis therefore examines 305 observations, resulting from the 35 peacekeeping missions from 2006 to 2019. This number of observations results from the reality that not all missions were carried out during the entire period this thesis focuses on. That said, some missions took place throughout the full time period, while others only at the start, middle, or end. Furthermore, in order to provide an accurate response to the thesis' research question, the number of observations is crucial because a larger sample size (observations) favorably influences the accuracy of the estimates of the regression (Tumbaz & Ipek, 2020, p. 1666). Thus, 305 observations are reasonable and justifiable for this thesis. However, after carefully reviewing all observations and cleaning the dataset due to some missing and repeated values, the total observations which is used for this research is 238. Considering only the time and places where the operations actually took place led to a total of 238 observations, making it still a large enough sample size.

### *4.3. Measurement and Operationalization of concepts*

Two main concepts follow from the research topic: economic growth of a country hosting a UN peacekeeping operation and the share of women assigned as peacekeepers in a particular UN peacekeeping operation. The concepts are closely related, both being rooted in the idea that security and trust fosters investment in economies. However, when comparing the two ideas, it is crucial to note that when a peacekeeping operation is underway in a country, there is a conflict that could have a negative effect on foreign investment, regardless of the presence of female peacekeepers. Nevertheless, as a result of these two concepts, it is important to understand that stability and security form the basis for economic growth (Carnahan et al., 2006, p. 1; Bove & Elia, 2017, p. 712). The concept of female participation is investigated to see if it has any relationship to economic growth. This is based on the assumption that including more women will strengthen the social fabric of the host nation and improve the mission's dependability and equity (Bridges & Horsfall, 2009, p. 127; Huber, 2022, p. 3).

These concepts must be operationalized in order to be measured, which entails defining specific processes and variables that will be used to collect the data, ultimately transforming

that data into measurable observations (Seeber, 2019, p. 166). The two main concepts are measured with variables. As the research aims to uncover if the presence of female peacekeepers impact economic growth in a host country, the dependent variable is the economic growth (Y) and the main independent variable is the share of female peacekeepers (X). These two main variables are accompanied by several control/confounding variables in order to omit variable bias. These control/confounding variables include economic wealth indicators such as *GDP per capita* (GDP_pc)*, inflation rate* (Inflation_Rate) and *foreign investment inflows* (Foreign_Investment)*, the severity of conflict* (Battle_Related_Deaths), *the presence of women in national parliaments* (Women_Parl)*, the population size* (Population) of the host country*, democracy index* (Democracy), *fragility of state index* (Fragility)*,* whether the missions is mandated under *Chapter VII* (Authorization of the use of force) (Chapter_VII) and *the overall number of peacekeepers participating in the mission* (Peacekeepers_Total). Furthermore, there are four identifier and index variables which refer to the *years* (Year) and *countries* (Country) when and where the missions took place, as well as the name of the *missions* (Missions) and whether the mission took place within a specific year (Mission_Binary). All variables and their description can be found in the codebook (**Table 2**).

#### 4.3.1. Dependent Variable

The thesis investigates the relationship between female peacekeepers and economic growth. Consequently, the economic growth of a host country is evaluated using data on the GDP growth rates of the countries where the UN peacekeeping missions take place. The GDP growth rate was selected because the thesis aims to examine changes in real GDP in contrast to the level of real GDP. In addition, it is also a robust measure of the health of the respective economy by taking into account all the goods and services of a country's economy (Callen, n.d.). In light of this, the GDP growth rate is a useful instrument, particularly when comparing various countries over time, as it captures a nation's overall performance and thus provides a more accurate picture of the nation's economic progress. Consequently, it serves as a useful indicator for examining a nation's economic growth.

GDP growth rate (GDP_Growth) is the dependent variable (DV) of this thesis and is treated as a continuous variable, as it can take on any value within a certain range. Regarding the subsequent analysis and in order to answer the research questions accurately, it is essential to look at the GDP growth rate for the year after a mission took place. As a result, the thesis

examines all variables at the same time of year, with the exception of the GDP growth rate, so i.e., when examining all variables in 2006, the pertinent GDP growth rate is looked at from the year of 2007. This is because the thesis seeks to determine what effect female peacekeepers have on a nation's economic growth; as a result, the year following the peacekeeping mission must be considered because otherwise the research is not investigating the actual change that could be achieved through the presence of a mission. This procedure was conducted through the statistical software R[1], leading to the renaming of the variable GDP_Growth to GDP_Growth_year_after in which the latter will be used for the following analysis[2].

### 4.3.2. Independent Variable

The main independent variable of interest (IV) is the involvement of female peacekeepers within a UN peacekeeping mission and is continuous. This concept is operationalized by taking data of the share of female peacekeepers assigned to a specific peacekeeping mission (Female_PK). The share of female peacekeepers was chosen because it highlights the need for gender equality, offers a more nuanced view of how inclusive UN peacekeeping operations are, and makes it possible to track progress over time. Additionally, if a UN peacekeeping mission has a small total number of peacekeepers, even a small share of female peacekeepers compared to the overall number of peacekeepers can make a difference in terms of gender representation and effectiveness of the mission. In light of this, it is important to examine the share of female peacekeepers rather than their absolute number, because it provides more precise information about the actual impact that female peacekeepers can have relative to the total number of peacekeepers.

It is important to note that the proportion of women participating differs significantly between host nations, which has a significant impact on the independent variable's dataset values. This is the result of the fact that the nations sending peacekeepers are typically reluctant to send female peacekeepers to countries in severe conflict (Crawford et al., 2015, pp. 268–269). This reality is demonstrated in the tendency "to have the lowest percentage of women" on missions with a "higher percentage of combat-related forces" (Candela, 2018). The decision to send fewer women is mostly influenced by traditional gender roles in the sending and

[1] R Script will be provided on request.

[2] The regression models were run with both the GDP_Growth and GDP_Growth_year_after. The results indicated the same outcome (negative relationship).

receiving countries, as well as by safety concerns and a lack of resources (Candela, 2018). This said, there are certain sending nations that are more inclined to send female peacekeepers than others, and therefore the data for the independent variable in this study is rather varied. For instance, Ethiopia and Ghana are sending nations with larger proportions of female peacekeepers (Candela, 2018). The limitation section of **Chapter 6** further explores this issue and discusses the impact it has on this research.

This study also examines all female peacekeepers, not just those who are serving in the military. Having said that, all female peacekeepers — whether they served in administrative, military, military police roles, or any other positions operating under the auspices of the UN — are included in the share of female peacekeepers. **Figures 2** & **3** visualize the share of female peacekeepers in each country where UN peacekeeping missions took place.

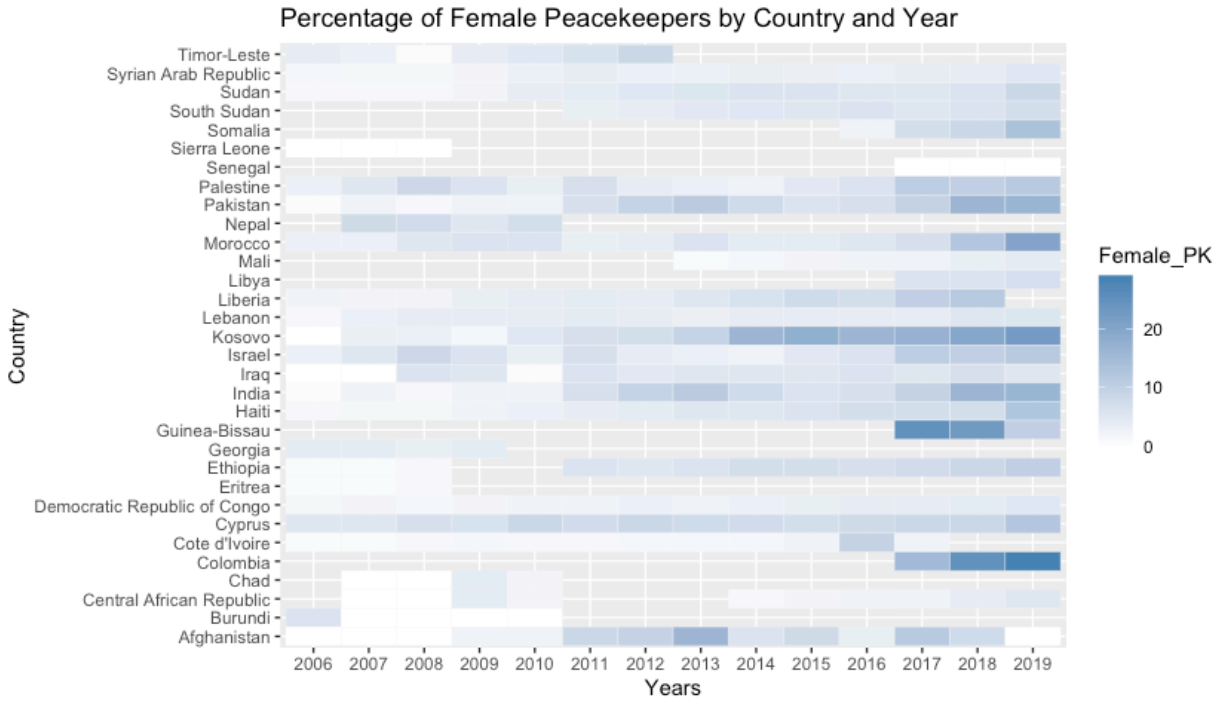



**Figure 2:** Distribution of Female Peacekeepers in Host Countries between 2006-2019

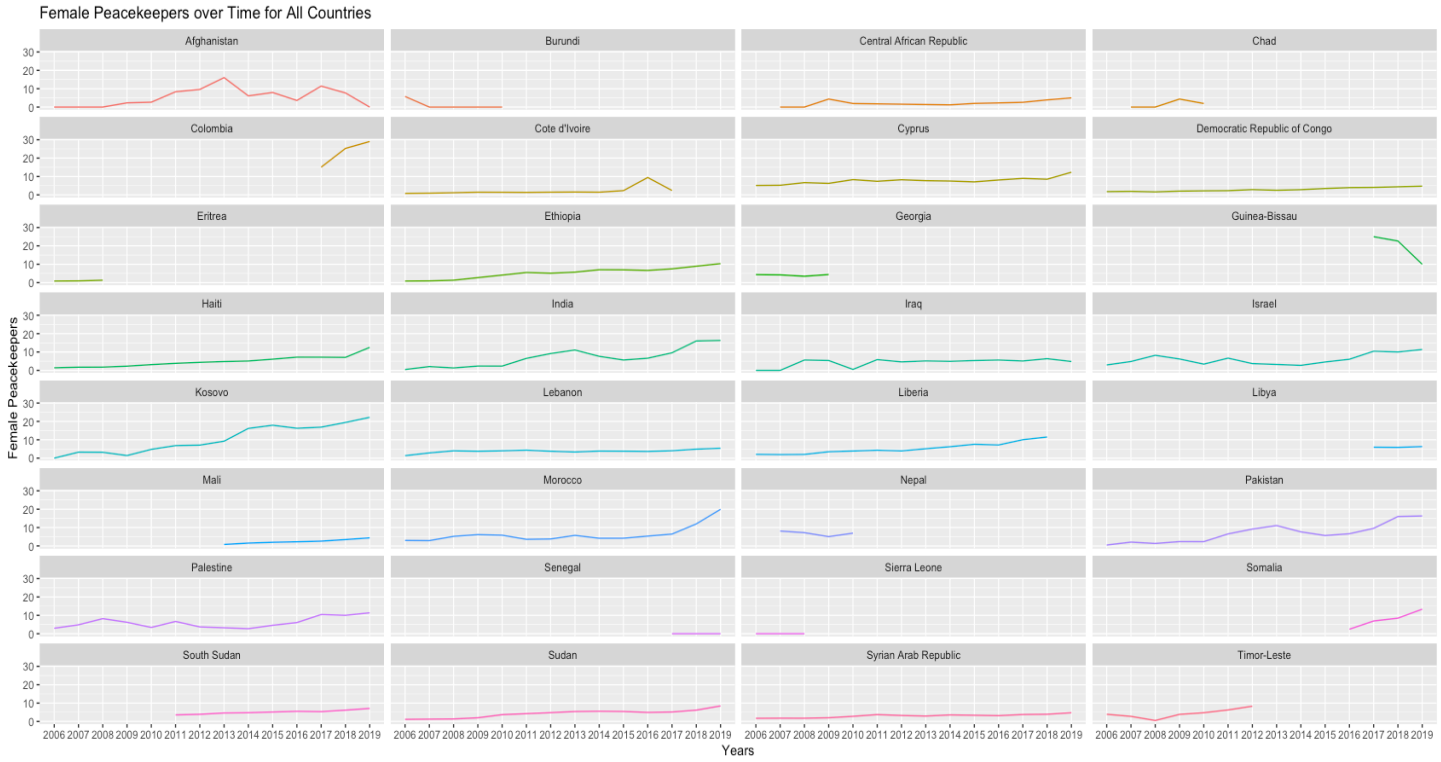



**Figure 3:** Increase or Decline in Share of Female Peacekeepers Over Time in Host Countries

This thesis calculated the share of female peacekeepers individually. This is because data on female peacekeepers was only made accessible monthly and in total numbers. Each peacekeeping mission's monthly statistics on male and female peacekeepers was compiled in order to calculate the share of female peacekeepers. Monthly information on male and female peacekeepers was gathered for each operation in order to calculate the share of female peacekeepers. The annual share of female peacekeepers for each operation was then determined by first calculating the annual average of females. It was then also feasible to determine the overall average for all peacekeepers using this calculation. The statistical software R was used to carry out this procedure. Having said that, the share of female peacekeepers used in this study came from the calculation of their annual average.

### 4.3.3. Control Variables

While the dependent and main independent variables operationalize the thesis' central ideas, the control variables will be used to account for a wide range of potentially influential factors, reducing omitted variable bias. The control variables for this thesis have diverse characteristics. One characteristic is that they are confounding variables made to check for

additional factors that might also affect the outcome, employed for technical purposes to predict the outcome, and increase statistical power, as well as to take into account both cross-sectional and temporal variations in the data.

These variables include *the severity of conflict* (Battle_Related_Deaths), *the presence of women in national parliaments* (Women_Parl)*, the population size* of the host country (Population)*, democracy index* (Democracy), *fragility of state index* (Fragility)*,* whether the missions is mandated under *Chapter VII* (Authorization of the use of force) (Chapter_VII) and *the overall number of peacekeepers participating in the mission* (Peacekeepers_Total). The variables were chosen for particular reasons. The variables for conflict severity, the fragility of the state and whether the mission is mandated under Chapter VII are used since a country that is engaged in a more intense conflict will likely also struggle more to build a functional economy, requiring a more robust UN peacekeeping mandate to combat the conflict (ICRC, 2016, p. 16). Furthermore, fewer female peacekeepers will be deployed in regions experiencing more intense conflict (Candela, 2018). This said, the variables for the conflict intensity can be seen as the main confounding variables, as they have the strongest impact on the main independent and the dependent variables. The other confounding variables were selected since women in domestic institutions and national parliaments can influence policies to be more gender-inclusive, which will improve the perception and thus the capabilities of female peacekeepers (Huber, 2022, pp. 1-2). Furthermore, a country's capacity to contribute to funds for efforts promoting economic growth may be influenced by the size of its population (Peterson, 2017, p. 1). Additionally, host countries with higher degrees of democracy are more willing to accept the potential benefits of female peacekeepers on their social and economic structures (Solotaroff, 2020).

The control variables concerning a country's economic growth (DV) serve a more technical purpose. These variables for this research are *GDP per capita* (GDP_pc), *inflation rate* (Inflation_Rate) and *Foreign Investment Inflows* (Foreign_Investment). They were included because they are essential to estimate the relationship between the main variables of interest (DV and IV) more accurately, which consequently enhances the regression model's overall fit. For technical purposes, including these variables strengthens the research's statistical power and robustness while also minimizing bias.

The control variables, *GDP per capita* and *Foreign Investment Inflows*, were divided by thousand and a million US dollars, to ease further calculations. These variables were then renamed to GDP_pc1000 and Foreign_Investment_Mill to condense and simplify the figures. There were issues while trying to use the *population size* variable during the coding process for this thesis. Hence, the decision was made to combine the *foreign investment* variable with the *population* variable by dividing the foreign investment with the population size of the individual countries. This step was crucial since it is essential to take into account the factor population for the research's findings. Consequently, the merged variable named *Investment* will therefore be taken into account for the following analysis (to be found in **Table 2**).

This study also uses more descriptive variables (Index and Identifiers) in addition to the other control variables. This is done because they act as indices or markers for the various cross-sectional units and time periods included in the panel data collection. With the use of these variables, the data can be arranged and examined in a way that makes it possible to monitor changes over time within each unit, compare patterns between units, and develop models that take into account both cross-sectional and temporal variations in the data. In this research, these variables are the years the missions took place (Year), the missions names (Missions), and the countries in which the missions were deployed (Country). Additionally, each variable that was used in this thesis was computed annually using a different quantification approach. Therefore, **Table 2** serves as the codebook as well as an overview of how each variable is treated.

| Variable | Code Name | Description & Quantification | Variable Type |
|---|---|---|---|
| Economic Growth Rate | GDP_Growth_year_after | Measurement of the change in the GDP of a country in comparison to an earlier period. Determinant of economic health and possible growth in the future.<br>Measured in percentage. | Dependent (quantiative) |
| Share of Female Peacekeepers | Female_PK | Measurement of how many women serve as peacekeepers relative to the total number of peacekeepers.<br>Measured in percentage of the annual average. | Independent (quantiative) |
| Conflict Intensity | Battle_Related_Deaths | Measurement of deaths usually involving armed forces including traditional battlefield fighting, guerilla activities, and all kinds of bombardments of military units.<br>Measured in deaths per 100.000 people. | Control/Confounding (quantiative) |
| Chapter VII | Chapter_VII | Whether a peacekeeping mission is authorized to use force or other enforcement measures, indicating a more robust mandate.<br>Measured as binary (yes = 1; no = 0). | Control/Confounding (categorical) |
| Democracy Index | Democracy | Measurement of what level a country scores regarding electoral democracy.<br>Measured in a scale from 0-7 (0 lowest; 7 highest level of electoral democracy). | Control/Confounding (quantiative) |
| Foreign Investment Inflows | Foreign_Investment_Mill | Measurement of the value of inward direct investment made by non-resident investory in a reporting country.<br>Measured in US Dollars. | Control (quantiative) |
| Population Size | Population | The number of individuals present in a population.<br>Measured in total numbers. | Control (quantiative) |
| Foreign Investment divided by Population | Investment | Merged variable. Foreign Investment variable divided by the population of the respective countries.<br>Measured in US Dollars. | Control (quantiative) |
| Fragility of State Index | Fragility | Measurement of the state's vulnerability to conflict or collapse.<br>Measured in a scale of 0-120 (0 = most stable; 120 = least stable). | Control/Condounding (quantiative) |
| GDP Per Capita | GDP_pc1000 | Measurement of the economic output of a nation per person.<br>Measured in US Dollars. | Control (quantiative) |
| Inflation Rate | Inflation_Rate | Measurement of the increase in prices over a given period of time.<br>Measured in percentage. | Control (quantiative) |
| Women in Parliament | Women_Parl | The percentage of women in national parliaments relative to the total number of staff in national parliaments.<br>Measured in percentage. | Control/Confounding (quantiative) |
| Peacekeepers Total | Peacekeepers_Total | The total number of peacekeepers deployed in a peacekeeping mission.<br>Measured in total numbers. | Control (quantiative) |
| Mission Name | Missions | The acronym of the actual peacekeeping missions' name. | Index |
| Country | Country | The country in which the peacekeeping mission took place. | Identifier |
| Year | Year | The years between 2006 and 2019. | Index |

**Table 2**: Codebook

### *4.4. Method of Analysis*

This section describes both the sources for the data and the methods used to collect them. To answer the thesis's research question and test the hypothesis on whether female peacekeepers and economic growth have a relationship, it is also essential to explain how the data can be analyzed and further coded.

#### 4.4.1. Data Collection

The primary data for this thesis comes mainly from two sources. The World Bank provides information about GDP growth rate (The World Bank, 2021g). The information about the share of female peacekeepers is found in two UN gender datasets (United Nations Peacekeeping, 2022a; United Nations Peacekeeping, 2022b). These two datasets are merged through the statistical software R, as the second datasets contains data only from 2010 onwards. The data for the control variables comes from various other sources. The UN provides data for peacekeeping personnel and clarifies under which mandate and chapter of the UN Charter the respective peacekeeping mission is conducted (United Nations Peacekeeping, 2022c; United Nations Security Council, 2022; Security Council Report, 2008), while the *Global Burden of Disease (GBD)* from the University of Washington (University of Washington, 2019) and the *Fragile State Index* from Fund For Peace (Fund For Peace, 2022) provides data on conflict severity. Even though the database for GBD focuses more on diseases, information on battle-related deaths brought on by conflict and terrorism were provided for every country worldwide (University of Washington, 2019). The data for democracy indicators comes from the *Lexical Index of Electoral Democracy* (Skaaning, 2021) whereas the data for women in national parliaments are provided by the World Bank (The World Bank, 2021a). The data for GDP per capita, Foreign Investment Inflows and Inflation Rate as well as the population size of the host country are also taken from the World Bank (The World Bank, 2021b; The World Bank, 2021c; The World Bank, 2021d; The World Bank, 2021e).

In the beginning of the thesis trajectory, I planned to investigate the period between 2006 and 2022. This was particularly intriguing because the goal was to study a topic that was as recent as possible. However, due to data availability issues, the study needed to consider the period from 2006 to 2019. This is primarily because that data for female peacekeepers and the primary confounding variable, battle-related deaths, as well as variables related to democracy,

were only made available starting in either 2006 or ending in 2019. Furthermore, despite the fact that they would have been suitable given the context and results of this study, two prospective control variables — conflict barometer of the *Heidelberg Institute for International Conflict Research* (HIIK) (HIIK, 2021) and economic inequality index (GINI) (The World Bank, 2021f) — were unfeasible to use because of a large number of missing values or complexity of their data composition. However, since this thesis uses economic wealth indicators and battle-related deaths, the choice to exclude them was still justified. However, if data are available after submission of this thesis, future research may still consider including similar variables in order to increase the prediction's accuracy.

### 4.4.2. Data Analysis

The data collected for this thesis was examined using the statistical program R. First, it was necessary to calculate and merge the data for the primary independent variable of interest, since the only data on female peacekeepers was accessible on a monthly basis. Since the dependent variable could only be obtained in an annual form, this had to be calculated as an annual figure. After calculating the annual average and then subsequently the percentage of the average of female peacekeepers in relation to the overall number of peacekeepers for each year between 2006 to 2019, the datasets had to be merged.

For the purpose of the following analysis, the economic growth (DV) and the share of female peacekeepers (IV) are treated as continuous variables. The control variables such as GDP per capita and Foreign Investment Inflows are also treated as continuous variables as they are computed in a currency. Additionally, inflation rate, women in parliament and population size are also continuous. The total of peacekeepers is continuous and battle-related deaths are discrete. The variables regarding whether a mission falls under Chapter VII and whether the mission took place are both binary and thus are treated as categorical variables. Factors that have been calculated and then put on display using a scale, such as the Democracy Index and the Fragility of State Index are quantitative.

The three variables — years, mission names, and countries — serve as identifiers and indices for the different cross-sectional units and time periods covered by the panel data collection. It was then necessary to test for multi-collinearity because it is crucial to see if there is a strong correlation between two or more variables and the primary independent variable of

interest. It is essential to verify if the variables are independent; otherwise, interpreting the findings accurately and using the regression's estimation parameters could become challenging (Tumbaz & Ipek, 2020, p. 1666). By conducting a correlation table as well as a Variance Inflation Factor (VIF Table), it is evident that all values were below 90 (rule of thumb) in the correlation table and less than 5 in the VIF table (**Figure 4**) and thus, it is possible to proceed with all initial variables. Additionally, for more precise prediction and due to the nature of random effects models, control variables must be used because the outcome variable (GDP_Growth_year_after) may be influenced by more than just the share of female peacekeepers (Female_PK).

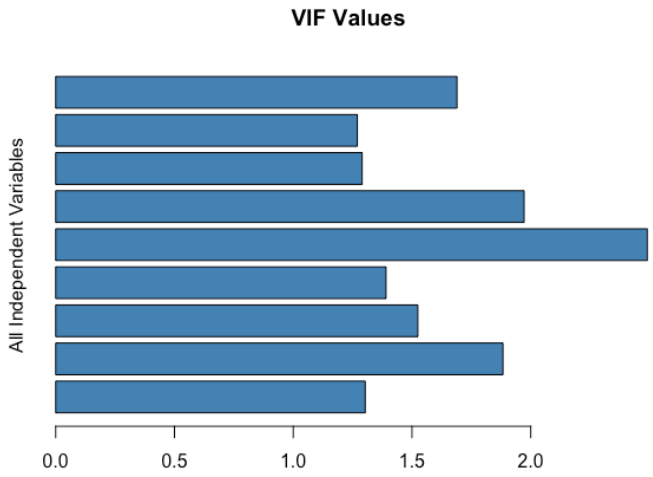



**Figure 4:** Check for Multi-Collinearity

This thesis makes use of three regression models. After testing each model extensively for its fit and suitability, one model is selected as the most appropriate for further analysis. The testing procedure is articulated in full in **Chapter 5**. The first regression model is a pooled OLS, the second is fixed effects, and the third is random effects. Since each regression builds upon the other, it is necessary to determine which model is the most appropriate one for this research. Consequently, the three equations are as follows.

*Pooled OLS* assumes that the coefficients of the explanatory variables are the same across all units in the datasets:

$$y_i = \alpha + \beta_1 x1_i + \beta_2 x2_i + \ldots + u_i$$

| | |
|---|---|
| $y_i$ | dependent variable for observation i |
| $\alpha$ | intercept (constant term) of the model |
| $\beta_1, \beta_2, \ldots$ | coefficients (slopes), which represent the effect of each independent variable on the dependent variable |
| $x1_i$ | explanatory variable (main independent variable) |
| $x2_i, x3_i, \ldots$ | control variables |
| $u_i$ | the error terms which include any unobserved factors that affect the dependent variable |

**Table 3:** Explanation for Pooled OLS Regression Equation

*Fixed Effects* allows for the intercept terms to vary over the individual units $_i$ (Verbeek, 2017, p. 386):

$$y_{it} = \alpha_i + \beta_1 x1_{it} + \beta_2 x2_{it} + \ldots + u_{it}$$

| | |
|---|---|
| $y_{it}$ | dependent variable for observation i at time t |
| $\beta_1, \beta_2, \ldots$ | coefficients (slopes), which represent the effect of each independent variable on the dependent variable |
| $\alpha_i$ | individual-specific intercept which is constant over time and not included in the model's independent variables |
| $x1_{it}$ | explanatory variable (main independent variable) |
| $x2_{it}, x3_{it}, \ldots$ | control variables |
| $u_{it}$ | the error terms which include any unobserved factors that affect the dependent variable |

**Table 4:** Explanation for Fixed Effects Regression Equation

*Random Effects* assumes that an error term may adequately summarize all variables that have an impact on the dependent variable. This means that there is an "error term consisting of two components: an individual-specific component, which does not vary over time, and a remainder component, which is assumed to be uncorrelated over time" (Verbeek, 2017, p. 391):

$$y_{it} = \beta_0 + \beta_1 x1_{it} + \beta_2 x2_{it} + \ldots + \alpha_i + u_{it}$$

| | |
|---|---|
| $y_{it}$ | dependent variable for observation i at time t |
| $\beta_0$ | intercept (constant term) of the model |
| $\beta_1, \beta_2, \ldots$ | coefficients (slopes), which represent the effect of each independent variable on the dependent variable |
| $\alpha_i$ | individual-specific intercept which is constant over time and not included in the model's independent variables |
| $x1_{it}$ | explanatory variable (main independent variable) |
| $x2_{it}, x3_{it}, \ldots$ | control variables |
| $u_{it}$ | the error terms which include any unobserved factors that affect the dependent variable |

**Table 5:** Explanation for Random Effects Regression Equation

It is possible to investigate the relationship between the two main variables, as well as the control variables, by using a linear regression with pooled, fixed, and random effects models. As a result, it is then feasible to ascertain the most suitable regression model, and then to utilize this method to answer the thesis's research question and investigate its hypothesis.

# 5. Results

This chapter provides the results of the linear regression models (pooled, fixed, and random effects) that examined whether there is a relationship between female peacekeepers and economic growth in the host country. First, descriptive statistics are provided to help show how the data is generally distributed. Then, the results of the three different regression models are analyzed. This analysis helps further explain which regression model is the most appropriate one for answering the research question and testing **Hypothesis 1**. This chapter concludes with a Leamer's and Sala-i-Martin's robustness check for the regressions' results.

## *5.1. Descriptive Analysis*

Prior to determining the data's descriptive statistics, it is first essential to determine if this panel data is balanced or unbalanced. Due to the fact that each panel member in the dataset has a varied number of observations, or at least one panel member is not observed every year between 2006 and 2019 the panel data in this thesis is unbalanced. As a result, the frequency for each UN peacekeeping deployment differs, and therefore **n < N*T**, meaning that there are less observations when multiplying the panel members by the observed time period. In this equation, **n** denotes the number of observations, **N** the panel members and **T** the period of time under observation (see Krishnan, 2022).

| Statistic | N | Mean | St. Dev. | Min | Pctl(25) | Pctl(75) | Max |
|---|---|---|---|---|---|---|---|
| Battle_Related_Deaths | 305 | 19,556 | 68,083 | 0 | 6 | 7320 | 678,170 |
| Democracy | 303 | 3.908 | 2.348 | 0.000 | 2.000 | 6.000 | 7.000 |
| Fragility | 289 | 94.625 | 13.494 | 57.800 | 83.600 | 106.000 | 114.500 |
| Inflation Rate (%) | 281 | 9.635 | 27.370 | -10.067 | 1.451 | 9.861 | 380.000 |
| Women Parl (%) | 270 | 17.000 | 9.360 | 0.000 | 9.596 | 25.231 | 41.818 |
| GDP_pc1000 | 299 | 4.941 | 9.091 | 0.166 | 0.664 | 3.534 | 44.452 |
| GDP Growth year after | 297 | 3.298 | 6.490 | -46.082 | 1.701 | 6.249 | 21.391 |
| Peacekeepers_Total | 305 | 4,643.891 | 7,058.183 | 1 | 44.1 | 8,599.9 | 39,978 |
| Female PK | 305 | 5.300 | 4.525 | 0.000 | 2.306 | 6.670 | 29.051 |
| Net Foreign Investment | 296 | 1,281.287 | 6,668.598 | -910.922 | 9.331 | 86.527 | 60,500.980 |

**Table 6:** Descriptive Statistics

**Table 6** lists all findings for each variable which will be used for the following analysis. However, the dependent variable (GDP_Growth_year_after) considering GDP Growth rate has a few missing values, meaning that less information is available about some countries'

economic growth. This can be explained by the fact that all of the countries under consideration are, to some extent, embroiled in conflict, making it challenging to consistently obtain accurate data on economic growth. These missing values can also be seen in **Figure 5,** where the few outliers of the dependent variable are indicated.

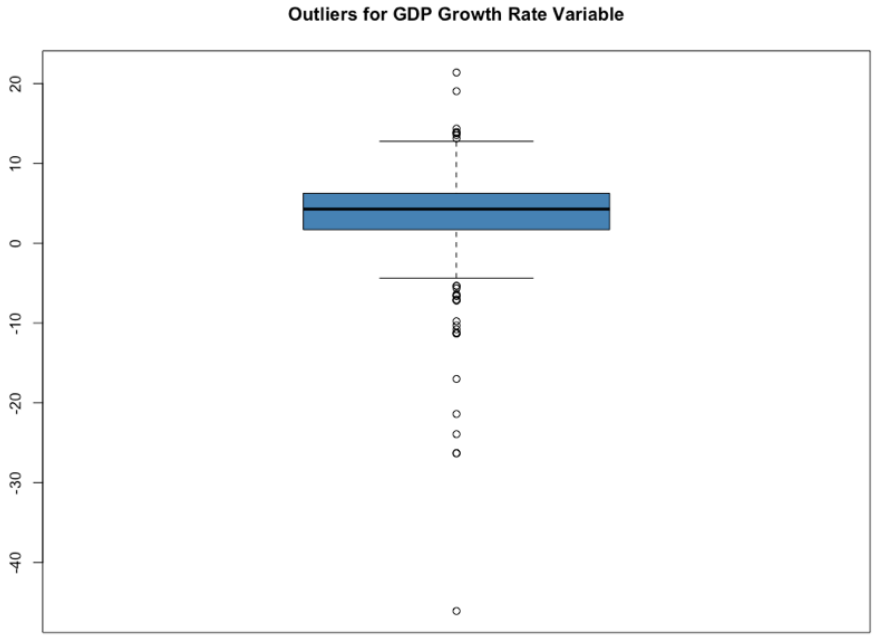



**Figure 5:** Outliers for GDP Growth Rate

This indicates that certain nations have a significant negative GDP growth rate. South Sudan, Syria, and Sudan are just a few examples of nations with a negative GDP growth rate in the dataset. For instance, South Sudan's 2011 independence resulted in a significant decline in GDP growth. Since there is conflict in nearly every country in this dataset, the GDP growth rate can indeed reach extreme values. Therefore, these factors account for the strong outliers in the dataset that are present. Extreme outliers like these are typically eliminated from datasets, but since it is important for this research to show how a conflict affects a nation, I decide to keep them.

However, to ensure that the outcomes of this research are not tainted by these missing values, the Leamer's and Sala-i-Martin's robustness check (**Chapter 5.3.)** further examines if these outliers have an effect on the overall outcome of the findings. The data's low variability of dispersion can be seen while examining the ratio between the dependent variable's mean

and standard deviation. Due to the close proximity of the mean (3.298) and standard deviation (6.490), the values of the GDP Growth rate variable are closely clustered around the mean value and are not widely scattered. Furthermore, the distribution of the GDP Growth Rate (GDP_Growth_year_after) shows a left skew because the median (4.3) is greater than the mean (3.298).

The primary independent variable (Female_PK) has a mean of 5.300 and a median of 4.4. This shows a right skew and a small difference between the values, suggesting the distribution of the research findings is almost perfectly symmetrical. The 25th and 75th percentiles of the main independent variable (Female_PK) can also be used to determine the distribution of the dataset. Female_PK's 75th percentile is 6.670, while its 25th percentile is 2.300. Since the mean of Female_PK (5.300) also lies between these values, it demonstrates once more that the data in this variable is not significantly skewed. Additionally, it is clear by looking at **Figure 6** & **7** (and **Appendix 1** & **2**) that there are only a few outliers and therefore the dataset's variance for female peacekeepers is minimal.

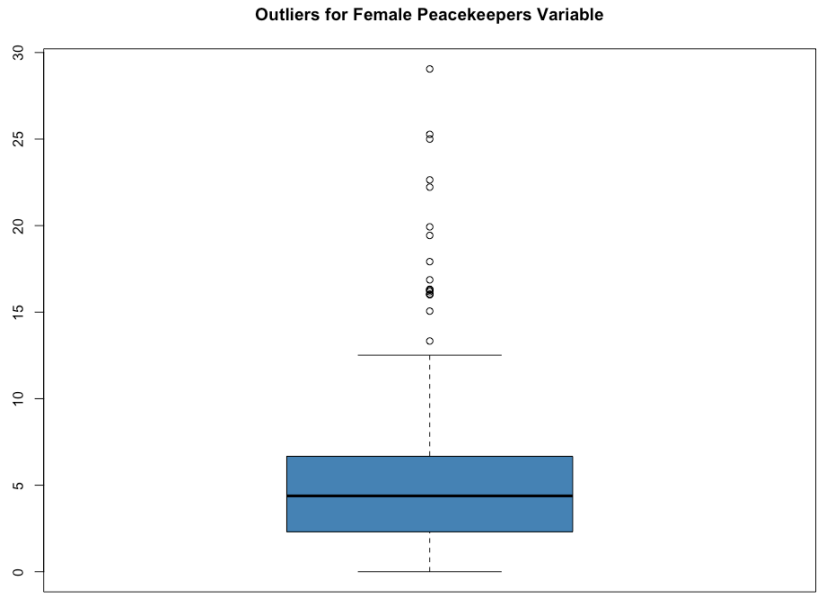



**Figure 6:** Outliers for Share of Female Peacekeepers

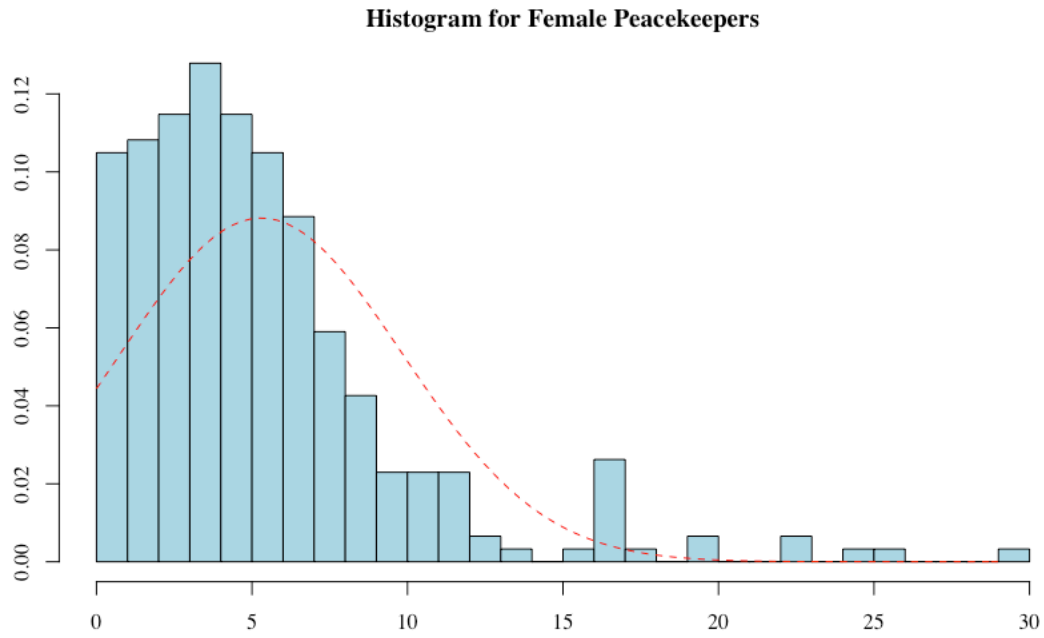



**Figure 7:** Histogram with Normal Distribution Curve for Share of Female Peacekeepers

When examining the 75th percentile of Female_PK, in 75% of the countries only around 6.6% of female peacekeepers are present. This statistic indicates a fairly low number of women being deployed at UN peacekeeping missions. Outliers may be present because there are comparatively more female peacekeepers in some countries than in others. This may also be observed in **Figure 8** (and **Appendix 3** with total numbers of female peacekeepers), where, for instance, in Colombia there were more female peacekeepers than in Senegal. **Chapter 6** provides more detail about why women are deployed as peacekeepers at a higher rate in some nations than in others. The chapter also discusses the limitations this brings to this study.

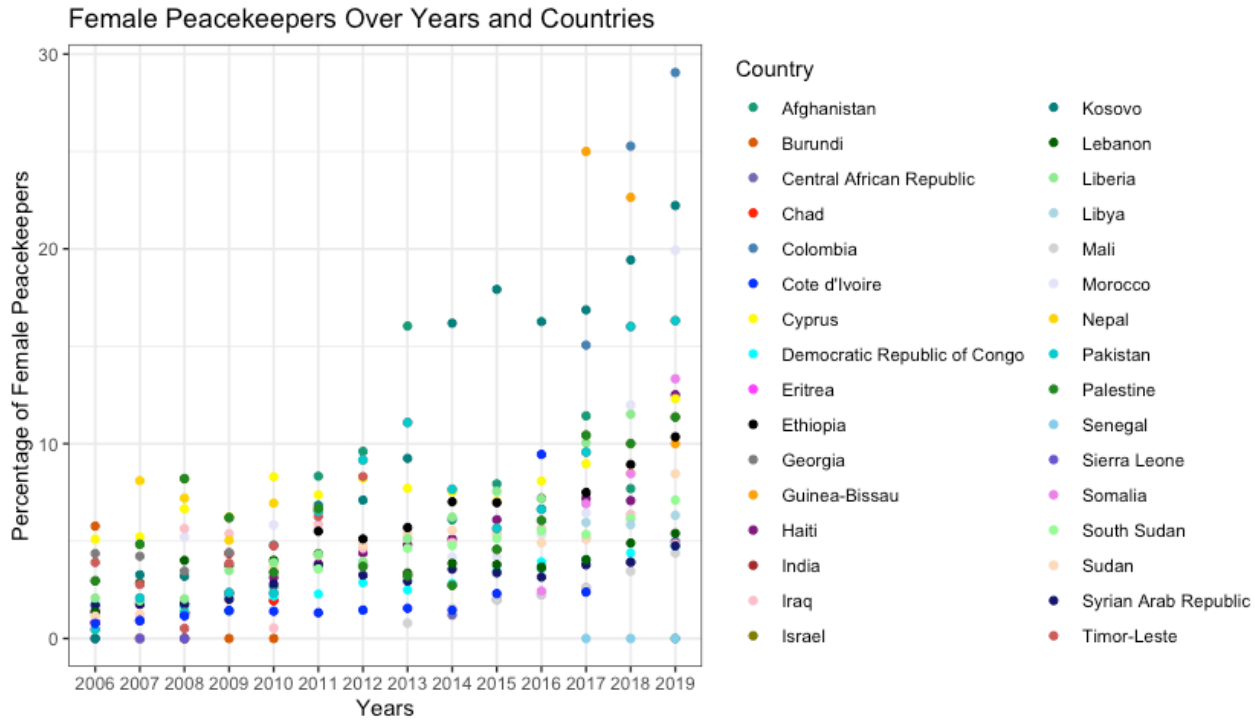



**Figure 8:** Share of Female Peacekeepers with Indication for Majority of Women in certain Countries over Years

The variable for *Conflict intensity* (Battle_Related_Deaths) considers the battle-related deaths per 100.000 people in a country. The data for this variable are largely spread out with the high standard deviation of 68,083. Iraq, Palestine, Sudan, and South Sudan, for instance, have higher conflict intensity levels, whereas Georgia and Morocco have relatively low levels of battle-related fatalities. This may be because Palestine and Iraq have had and continue to experience far more intense conflict than other nations in the dataset. Additionally, in these nations conflict affects the entire country rather than just a particular region. That is not the case, for instance, in Morocco, where the conflict is mostly focused in the Western Sahara region. As a result, the conflict intensity data may have a long tail on one side due to some outliers or extreme values. This demonstrates that some countries have very high rates of battle-related fatalities, which are distorting the average. This is further demonstrated by examining the 75th percentile, which reveals that 7320 combat-related deaths occur in 75% of the nations. When contrasting this value with the maximum number of deaths (678,170), it is quite modest. This modesty demonstrates that while some countries do have severe values, the bulk of countries experience lower rates of battle-related fatalities.

The variable referring to the *Democracy Index* is visualized as the level of electoral democracy (Democracy). This variable is measured on a scale from 0 to 7, with 0 representing the lowest level and 7 the highest. The mean (3.908) and the median (3.0) are quite close to one another, similar to the primary independent variable (Female_PK), showing a nearly perfect symmetric distribution in the variable's data. The close proximity of the mean's (3.908) and standard deviation's (2.348) values, as well as the fact that the mean lies between the values of the 75th percentile (6.000) and 25th percentile (2.000), further support the idea that the data are not highly skewed towards one end of the distribution. This suggests that the data on electoral democracy is generally consistent across all of the countries. Furthermore, 75% of the countries in the dataset are on a level of 6, indicating that the majority of countries have a higher level of electoral democracy.

The *Fragility of State Index* (Fragility) variable is quantified on a scale from 0 to 120, where 0 denotes the lowest and 120 the maximum intensity of fragility in a country. Given that there is only a slight difference of 1.7 between the mean (94.625) and the median (96.3) the distribution is almost perfectly symmetrical. Additionally, the data have a left-skewed distribution because the median is greater than the mean. The values in the dataset are very close to one another and are not greatly spread out since the standard deviation shows a fairly low value (13.494) in comparison to the mean and median. This spread is also evident in the mean falling between the values of the 75th and 25th percentiles (106.000 and 83.600, respectively). These findings suggest that while the majority of countries have lower fragility scores, a small number of them have very high fragility scores that are pushing the median up. Nevertheless, given that the majority of countries suffer from a high level of national fragility brought on by political turmoil, social unrest, and economic insecurity, they are more susceptible to internal conflicts, external threats, and general instability.

The variable regarding *Inflation* (Inflation_Rate) has data which are screwed to the right due to the median being smaller (4.3) than the mean (9.635). Moreover, the data is not widely spread, as the mean falls within the interquartile range of 1.451 and 9.861. However, the standard deviation (27.370) is much larger than the mean and median, indicating that there are some extreme values (outliers) that are pulling the standard deviation up and thus spreading the data. 75% of the countries in the dataset have a 9.8% inflation rate, indicating that the majority of the countries do struggle with inflation. This finding suggests that these countries are experiencing economic challenges or instability that are leading to high inflation rates.

The variable of *participation of women in national parliaments* (Women_Parl) is measured in percentage and is skewed to the left as the mean (17.000) is greater than its median (14.2). Additionally, the low standard deviation (9.360) and the fall of the mean in the interquartile range (9.596 and 25.231) indicate that the data is not highly skewed. According to the data, there is not a lot of variances in the number of women's representation among the countries. This means that most countries have relatively low levels of female representation in parliament, and the data is concentrated around a few values. The fact that 75% of countries have a maximum of 25,23% of women in parliament reinforces this observation.

Data for the GDP_pc1000 variable, which measures a nation's *GDP per capita*, shows that the dataset has a greater variation. The variation is also evidenced by the large discrepancy between the mean (4.941) and the median (1.5), and the fact that the mean is outside of the range between the 75th and 25th percentiles (0.664 and 3.534, respectively). This indicates that the difference between the mean and median values is the result of outliers in the data. The data further shows that while most countries have relatively low GDP per capita values, a small number of countries have a higher GDP per capita which pushes the mean value up. This can also be seen through the interquartile range, which shows that 75% of the dataset's countries have lower per capita incomes than 3534 US dollars, which is low when compared to the maximum of GDP per capita in the dataset of 44.452 US dollars.

A country's total number of *peacekeepers* (Peacekeepers_Total) is skewed to the left, as evidenced by the median (755.3) being lower than the mean (4643.891). This shows that there are more values dispersed at the higher end of the scale and more values concentrated toward the lower end. Additionally, this finding further demonstrates that, in comparison to the general picture, the bulk of the dataset's participating countries have relatively few peacekeepers on duty. This is further illustrated in **Figure 9** which shows the proportion of female peacekeepers among all peacekeepers in each deployment. The standard deviation (7058.183) is slightly smaller than the other values, and the mean falls inside the interquartile range (44.1 and 8599.9), indicating that the data are less dispersed and have a lower variance. This outcome shows that peacekeeper deployments in the countries of the dataset are generally stable and consistent.

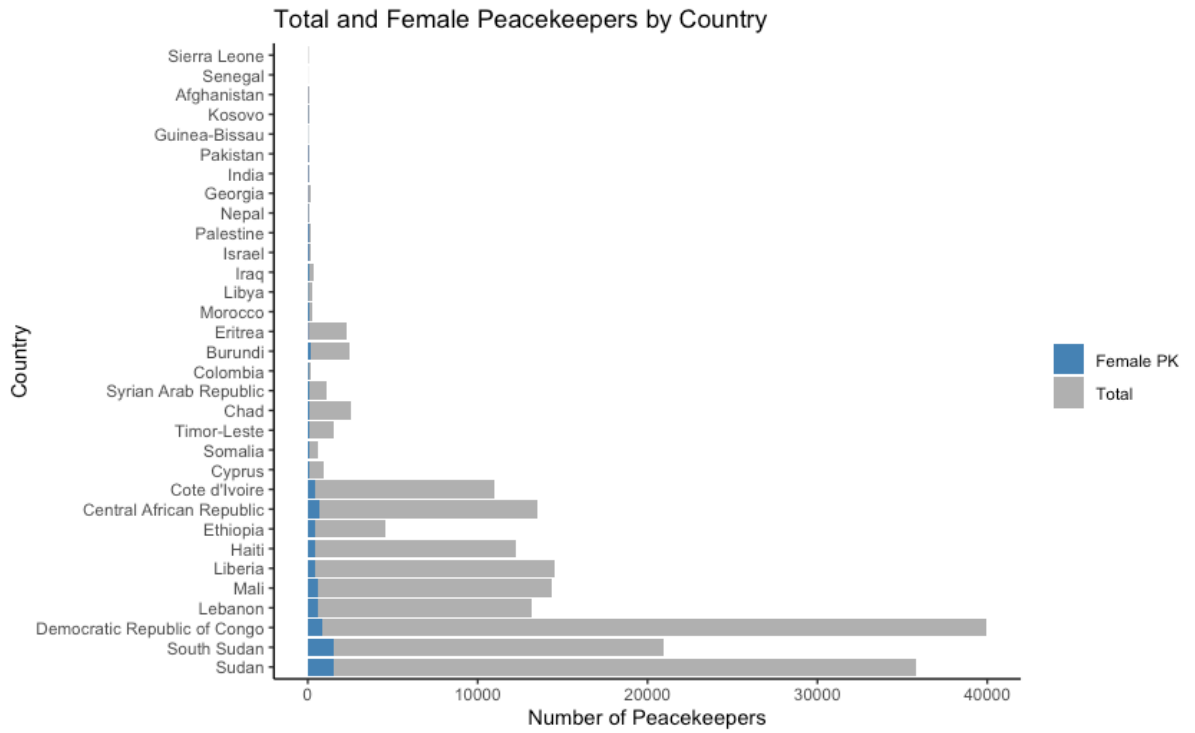



**Figure 9:** Comparison of Peacekeepers and Female Peacekeepers in Host Countries

The net foreign investment is divided by the population of each country in the dataset to produce the variable for *foreign investment* (Net Foreign Investment). Since the variable represents net foreign investment per capita, it can potentially have negative values. The mean (1281.287) for this variable is outside of the 75th and 25th percentiles (86.527 and 9.331), which indicates that the data for the variable are widely scattered. This is further supported by the high standard deviation (6668.598), which also suggests a wider distribution of the data. Additionally, the fact that the median (28.6) is less than the mean, implies that the data is skewed to the right, meaning that there are some extreme values in the dataset that are pulling up the mean. These findings imply that comparing the countries in the dataset, a significant number of countries have substantially greater amounts of foreign investment per capita.

The main independent variable and the dependent variable are plotted using a simple scatterplot to provide a first idea of whether there is a link between the presence of female peacekeepers and economic growth in a country. This is crucial to note before moving on to the findings of the three regression models. The share of female peacekeepers and the GDP Growth Rate were visualized in a simple scatterplot (**Figure 10**). This scatterplot highlighted a negative relationship between the two variables. This would mean that as the share of female peacekeepers increases, the GDP Growth Rate tends to decrease. Furthermore, **Figure 10** shows a relationship in the regression line, which could potentially lead to a rejection of the null hypothesis stating that there is no correlation between the share of female peacekeepers and economic growth. However, it is wrong to draw definitive inferences from just this simple scatterplot without also taking into account other control variables and more suitable approaches for working with panel data. Therefore, several regression models suitable for panel data must be considered to account for additional variables that might have an impact on the results in order to truly discover the nature of the relationship between the independent and dependent variables of interest.

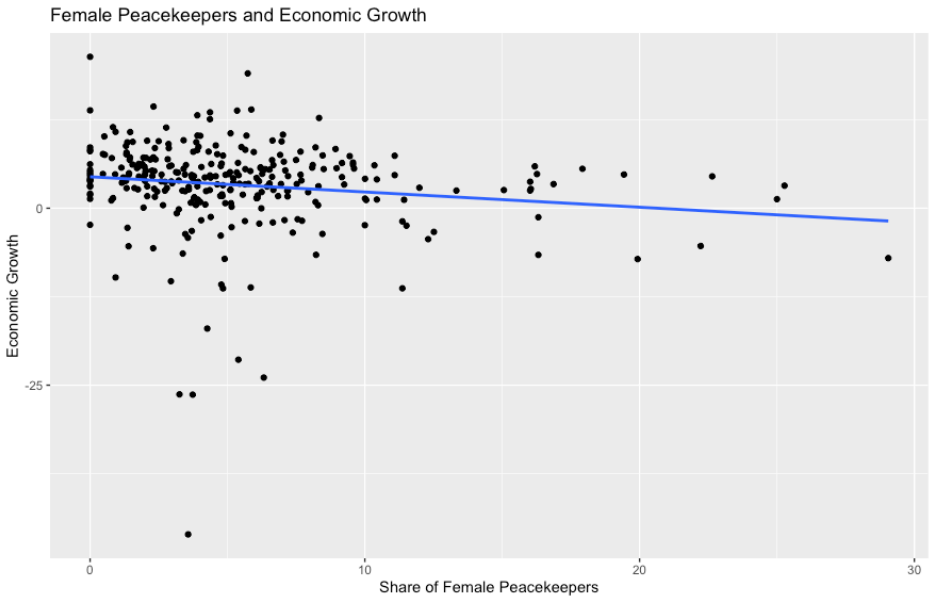



**Figure 10:** Scatterplot between Share of Female Peacekeepers and Economic Growth

### *5.2. Results of Linear Regression Models*

Three distinct regression models were conducted to test **Hypothesis 1**. Doing so was necessary to first determine which regression model is most suitable for working with the study's panel data (Kennedy, 2008, pp. 283-284). This process involved running a number of tests, including the *Breusch-Pagan* test to look for heteroskedasticity in the data and the *F test* and *Hausman test* to look for the best model fit for the current research.

### 5.2.1. Test for Heteroskedasticity

The condition defined as heteroskedasticity, in which a dependent variable's variability varies depending on the value of an independent variable, must be tested for in the research as it can result in inaccurate estimations of the standard errors and t-statistics (Olvera Astivia & Zumbo, 2019, pp. 1-3). This said, if there is evidence of heteroskedasticity, the results of the regression become unreliable (Halunga et al., 2017, p. 210). For this research, a test for heteroskedasticity is run for the pooled OLS regression model. **Figure 11** indicates that the majority of the plot values are on a comparable level and are therefore distributed with equal variance and thus having low levels of heteroskedasticity. Additionally, it appears that there is less heteroskedasticity when the *Breusch-Pagan test* is run. This is due to the fact that a p-value greater than 0.05 indicates a low level of heteroskedasticity. The *Breusch-Pagan test* for this study produces a p>0.05 (0.1014), indicating that the data for this research is homoskedastic. Hence, this result demonstrates that the variance of the errors is constant across all levels of the independent variables and thus making it a desirable property for — and reliability of — the regression analysis.

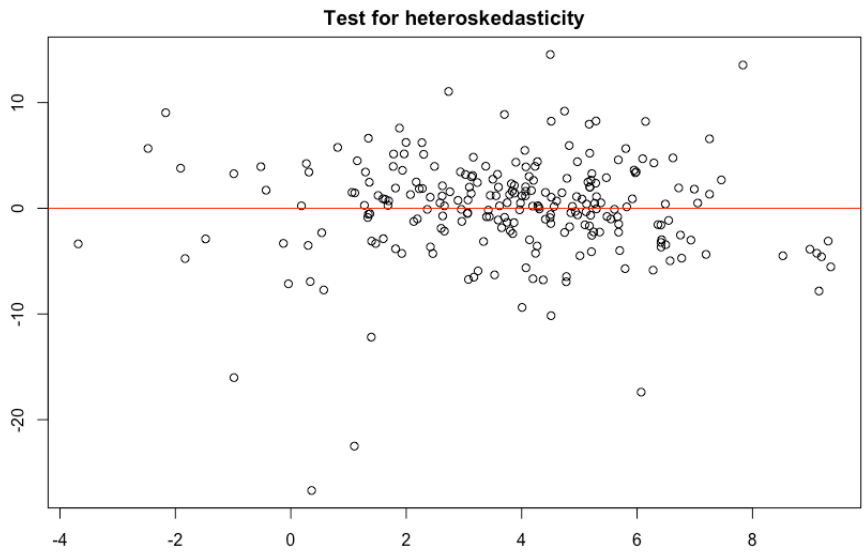



**Figure 11:** Test for Heteroskedasticity for Pooled OLS Regression Model

### 5.2.2. Results for Pooled OLS Regression

The pooled OLS regression model (**Table 7**) takes into account the dependent variable (GDP_Growth_year_after), the main independent variable (Female_PK) and all control variables. This model has constant coefficients for the intercepts and slopes and thus is suitable for running a normal ordinary squares regression (Hiestand, 2005, p. 44). Therefore, unlike fixed and random effects regression models, pooled OLS implies that all observations in the

panel are independent and that there is no correlation between the individual-specific effects and the independent variables.

**Pooled OLS Regression**

| | Economic Growth |
|---|---|
| Female Peacekeepers | -0.331*** |
| | (0.077) |
| Battle-related Deaths | -0.049*** |
| | (0.015) |
| Chapter VII | 1.348 |
| | (0.895) |
| Democracy | 0.189 |
| | (0.192) |
| Foreign Investment | -0.0001 |
| | (0.0001) |
| Fragility | 0.033 |
| | (0.038) |
| GDP per capita | -0.028 |
| | (0.045) |
| Inflation Rate | 0.027 |
| | (0.039) |
| Women in Parliament | 0.073* |
| | (0.038) |
| Peacekeepers | -0.0002*** |
| | (0.0001) |
| Constant | -0.242 |
| | (3.818) |
| N | 238 |
| R2 | 0.177 |
| Adjusted R2 | 0.141 |
| F Statistic | 4.883*** (df = 10; 227) |
| Notes: | ***Significant at the 1 percent level. |
| | **Significant at the 5 percent level. |
| | *Significant at the 10 percent level. |

**Table 7:** Results for Pooled OLS Regression Model

The findings of the pooled OLS analysis show a negative relationship between the GDP growth rate and the number of female peacekeepers in a host country. Indeed, the GDP Growth rate of a country (GDP_Growth_year_after) decreases by 0.331 percentage points for every percentage point increase in the share of female peacekeepers (Female_PK). Given that the standard error for this coefficient estimate is rather low (0.077), it is likely to be accurate and dependable. Additionally, the result of this estimate is also statistically significant at the 1% level. As a result of the t-value for this coefficient estimate being 4.323 (calculated in absolute numbers), the null hypothesis, which claims that there is no link between the two variables, can

be rejected. The t-values refers to the "critical region(s) indicating the presence of statistical significance" and determined by the selected significance level of $\alpha = 0.01$, 0.05 or 0.10 (Allua & Thompson, 2009, p. 168). This is due to the fact that the t-value for this estimate exceeds the critical value of 2.58, which denotes a 99% confidence interval for being accurate with the choice of rejecting or confirming the null hypothesis. Thus, in light of these results the alternative hypothesis can be confirmed, which suggests that there is a relationship (even if it is negative) between economic growth and the presence of female peacekeepers.

When all the control variables are taken into consideration, it is clear that the two that have the highest statistical significance (Battle-related_Deaths and Peacekeepers_total) also point to the rejection of the null hypothesis and confirmation of the alternative hypothesis. This is due to the Battle_Related_Deaths' t-value exceeding the threshold level of 2.58 with a value of 3.269. The same holds true for the variable having a value of 3.773 that represents the overall number of peacekeepers. Both variables' standard errors are also quite small, at 0.015 and 0.0001, respectively. This outcome further emphasizes the statistical significance of the null hypothesis being rejected.

The other control variables' t-values, on the other hand, would seem to support the null hypothesis (being lower than the crucial value of 2.58) and consequently demonstrate that there is no relationship between the two primary variables. However, the only variable that is statistically significant at the 10% level is the one that measures the proportion of women in parliament (Women_Parl). Consequently, the other control variables have a lower overall degree of statistical significance than the variables related to Female_PK, Battle_Related_Deaths, and Total Peacekeepers. Therefore, since the majority of these control variables are either not statistically significant or only statistically significant at very low levels, it does not affect the overall results of rejecting the null hypothesis and confirming the alternative hypothesis. Thus, the estimates' results of the pooled OLS regression confirms the alternative hypothesis stating that there is a relationship — albeit a slightly negative one — between female peacekeepers and economic growth.

Despite the pooled OLS regression's statistical significance in rejecting the null hypothesis, the coefficient may still have a negligible practical impact on the dependent variable. To evaluate the total model fit and determine the proportion of the variance in the dependent variable that is explained by the independent variable, it is necessary to also consider

the R-squared and adjusted R-squared. With 0.177 and 0.141, respectively, the R-squared and adjusted R-squared are both relatively low. As a result, the independent variable (Female_PK) can only account for 17.7% (adjusted 14,1%) of the data's variance. As a result, the pooled OLS regression's independent variable is unable to fully account for the dependent variable's variability, proving that the model does not adequately account for the data. This is consistent with the findings of the *F tests* (explained in **Chapter 5.2.5.**), which showed that the pooled OLS regression model does not adequately fit this research. Therefore, it is crucial to examine the findings of the fixed effects regression model in order to determine whether it is a better model to account for the effect of the independent variable on the dependent variable of this research.

### 5.2.3. Results for Fixed Effects Regression Model

The fixed effects regression model's findings (**Table 8**) are comparable to those of the pooled OLS regression model. The presence of female peacekeepers and economic growth in a host country are inversely correlated, as shown by the coefficient estimate of the primary independent variable on the dependent variable. The economic growth of a country decreases by 0.424 percentage points for every percentage point increase in the share of female peacekeepers in a country. This coefficient estimate's t-value exceeds the critical value of the 99% confidence interval by taking a value of 4.104, hence the outcome implies that the null hypothesis can be rejected. With a standard error of 0.103, this estimate's standard error is similarly relatively small when compared to the estimated statistics, supporting the same finding as the respective t-value. Three asterisks indicate that this outcome is also statistically significant at the 1% level. By focusing only on that result without taking into account the control variables, the fixed effects regression model suggests rejecting the null hypothesis and confirming the alternative hypothesis, which states that there is a relationship between female peacekeepers and economic growth in a host country. Given that it has the maximum statistical significance level that can be obtained when doing a regression, this result can be considered credible.

**Fixed effects Regression**

| | Economic Growth |
|---|---|
| Female Peacekeepers | -0.424*** |
| | (0.103) |
| Battle-related Deaths | -0.083*** |
| | (0.019) |
| Chapter VII | 1.079 |
| | (3.556) |
| Democracy | 0.375 |
| | (0.321) |
| Foreign Investment | -0.0001* |
| | (0.0001) |
| Fragility | 0.303** |
| | (0.127) |
| GDP per capita | -0.051 |
| | (0.185) |
| Inflation Rate | 0.085* |
| | (0.045) |
| Women in Parliament | 0.009 |
| | (0.129) |
| Peacekeepers | -0.0001 |
| | (0.0001) |
| N | 238 |
| R2 | 0.185 |
| Adjusted R2 | 0.038 |
| F Statistic | 4.548*** (df = 10; 201) |
| Notes: | ***Significant at the 1 percent level. |
| | **Significant at the 5 percent level. |
| | *Significant at the 10 percent level. |

**Table 8:** Results for Fixed Effects Regression Model

To make appropriate inferences, it is necessary to also take the outcomes of the control variables into account. When the findings of the control variables are taken into consideration, the results for four of them show statistical significance, although only the variable relating to battle-related deaths has it at the 1% level. According to the estimates, there is a negative relationship between female peacekeepers and economic growth, with an estimate of 0.083 for battle-related deaths. The t-value for this variable likewise points to the null hypothesis being

rejected because it rises to 4.358, exceeding the critical value of 2.58. The same conclusion drawn from the t-value is further supported by the 0.019 standard error's small value.

Results for three more control variables exhibit statistical significance. These variables include a country's inflation rate, state fragility, and foreign investment. Inflation rate and foreign investment only reach statistical significance at a level of 10% compared to the state fragility variable's statistical significance at a level of 5%. The estimations' findings support rejecting the null hypothesis that there is no relationship with female peacekeepers and economic growth when foreign investment and inflation rate are taken into account. This is because the t-values of 1.737 and 1.887, respectively, surpass the critical value of the 90% confidence interval of 1.65, which results from their statistical significance at the 10% level. A rejection of the null hypothesis is further suggested by the estimate of state fragility (Fragility), whose t-value, at 2.383, is higher than the critical value of 1.96 (obtained from the 95% confidence interval). Since their standard errors are all fairly small in comparison to their estimated statistics, they all point to comparable results.

The results of the estimates for the aforementioned control variables as well as the estimates between only the independent (Female_PK) and dependent variable (GDP_Growth_year_after) are used to determine which hypotheses can be confirmed since the other control variables do not show any statistical significance. Nonetheless, the overall findings of the fixed effects regression model support rejecting the null hypothesis and confirm the alternative hypothesis that there is a (negative) relationship between the presence of female peacekeepers and economic growth in a host country.

However, the R-squared and adjusted R-squared is — similar to the pooled OLS regression model — fairly low with 0.185 and 0.038. This indicates that the variance of the data can only be explained by 18,5% (adjusted, 0,38%) of the independent variable (Female_PK). Despite the fact that the outcome is mostly statistically significant, this model's independent variable cannot completely account for the variability of the dependent variable, demonstrating that the model does not sufficiently account for the data. The *Hausman test* (explained in **Chapter 5.2.5.**), which found that the random effects model is the best fit for this research, is also consistent with this. Therefore, tests of the estimates' results for the random effects regression model are now crucial.

### 5.2.4. Results for Random Effects Regression Model

Finally, it is necessary to consider the outcomes of the random effects regression model (**Table 9**). This model, which has a coefficient estimate of -0.355, exhibits a negative relationship between female peacekeepers and economic growth, similar to the pooled OLS and fixed effects regression models. This implies that the GDP growth of a nation decreases by 0.355 percentage points for every percentage point increase in the share of female peacekeepers. At the 1% level, this finding is statistically significant. Additionally, the t-value is higher than the 99% confidence level's critical value, which shows that the null hypothesis can be rejected. This result is further illustrated by the relatively modest (0.080) standard error of the coefficient estimate. The outcome of this estimate would thus point to a confirmation of the alternative hypothesis that there is a relationship between female peacekeepers and economic growth when only taking into account the independent variable's effect on the dependent variable and excluding the potential effect of the control variables.

The outcomes of the random effects regression model generally resemble those of the pooled OLS regression. This is because only the variables for battle-related deaths and the variable for the overall number of peacekeepers have a (high) level of statistical significance. A negative relationship with female peacekeepers and economic growth is also suggested by these two variables. Due to their t-values exceeding the critical value of 2.58 with 3.746 and 2.638, respectively, the results of their estimates likewise imply that the null hypothesis can be rejected. This indicates that, in light of these findings, the alternative hypothesis, according to which there is a relationship between the two main variables, can be confirmed. The same is true when the standard error is taken into account, which is also modest (0.017 and 0.0001) for both variables.

**Random effects Regression**

| | Economic Growth |
|---|---|
| Female Peacekeepers | -0.355*** |
| | (0.080) |
| Battle-related Deaths | -0.062*** |
| | (0.017) |
| Chapter VII | 0.893 |
| | (1.278) |
| Democracy | 0.245 |
| | (0.232) |
| Foreign Investment | -0.0001 |
| | (0.0001) |
| Fragility | 0.074 |
| | (0.055) |
| GDP per capita | -0.002 |
| | (0.069) |
| Inflation Rate | 0.050 |
| | (0.041) |
| Women in Parliament | 0.043 |
| | (0.051) |
| Peacekeepers | -0.0002*** |
| | (0.0001) |
| Constant | -3.455 |
| | (5.436) |
| N | 238 |
| R2 | 0.159 |
| Adjusted R2 | 0.122 |
| F Statistic | 42.309*** |

Notes: ***Significant at the 1 percent level.
**Significant at the 5 percent level.
*Significant at the 10 percent level.

**Table 9:** Results for Random Effects Regression Model

It is therefore reasonable to claim that the random effects regression finds that the alternative hypothesis can be confirmed, since the results for the other variables have no statistical significance at any level. As a result, all three regression models reach the same conclusion, demonstrating that there is a relationship between the independent and dependent variables of interest, albeit a negative one.

Furthermore, the results are comparable to those of the other two regression models when considering the R-squared and adjusted R-squared of the random effects model. With

0.159 and 0.122, the R-squared and adjusted R-squared are both relatively low. The variance in the data can only be explained by the independent variable (Female_PK) to the extent of 15,9% (adjusted 12,2%). As a result, this model actually contributes even less to the variance explanation than the pooled OLS regression model. These results suggest that all three models appear to be weak at explaining the variance in the data. Given the research question and the findings of this study, this result is not surprising. The lack of data variance is not considered a weakness but rather a characteristic of the research itself. There is no benchmark in literature with the same or similar research question, so it is impossible to compare the R-squared in this study to others to assess the influence of this low variance in the data. Nevertheless, since the results of the various tests showed that the random effects regression model is the best fit for this research (explained in the following **Chapter 5.2.5.)** and that the overall result of the regression having a high level of statistical significance, it can be inferred that the random effects model demonstrates a (negative) relationship between the share of female peacekeepers, confirming the alternative hypothesis of the study.

### 5.2.5. Tests for best fit

First, a pooled OLS regression, then a fixed effects model, and finally a random effects regression model are conducted to determine which regression model is the most appropriate for this research. This order was chosen since the tests follow up on each other and build upon the previous ones, meaning a very particular order must be followed in order to find the best appropriate model. The *F test* revealed whether a pooled or fixed effects regression model is a better approach, whereas the *Hausman test* allowed me to determine whether to move forward with a fixed or a random effects regression model. When the *F test* yields a p-value of 0.05 or less, it is appropriate to continue with the fixed effects model. The p-value "reflects the degree of data compatibility with the null hypothesis" and among statistical journals a p-value of 0.05 is often used as a threshold for statistical significance (Di Leo & Sardanelli, 2020, p. 1). This is the case with this research because the test's results showed $p<0.05$ with 0.001128. Consequently, the fixed effects model was determined to be better suited for this research than pooled OLS model. Following that, a *Hausman test* is run to see if fixed would still be favored over a random effects model. When $p>0.05$, a random effects model is more appropriate. After performing the *Hausman test,* it becomes clear that a random effects regression model is the best appropriate model for this research. This is because the p-value was substantially greater than 0.05 with a value of 0.3214. Therefore, it is reasonable to continue using the random

effects model for this study based solely on these results. However, since the *F* and *Hausman tests* have several limitations that could reduce their accuracy, it is always advisable to proceed with caution when using these results. The theoretical foundations of the analysis, the reliability of the findings, and the purpose of the research itself are thus also vital to take into account when deciding which model is the most appropriate (Verbeek, 2017, p. 395). As a result, it is decided to examine the outcomes of all three regression models in order to identify which is, in fact, the most appropriate. By doing so, the outcome for the random effects model appears to be the most suitable for this research.

### 5.2.6. Summary of Regression Results

Conducting three different regression models helped in determining the best suited model and supported the comparison of results at the same time. Despite being able to account for the variance in the data for all three regressions, none of them could do so with sufficient accuracy. All three regressions continued to produce findings that confirmed the alternative hypothesis that there is a relationship between female peacekeepers and economic growth. It is therefore not possible to solely rely on these results to decide which regression model constituted the best fit. Despite the fact that the pooled OLS regression had a marginally better result in explaining the variance and the fixed effect model had higher statistical significance for the control variables (though at a lower level), the results of the *F test* and *Hausman test* nonetheless indicated that the random effects model is the most appropriate fit. This is because the random effects model accounts for data variability resulting from both within-group and between-group differences. The decision to continue with the random effects model is significant for the research in this thesis because it examines various UN peacekeeping missions in widely varying parts of the world. Additionally, the choice to rely on the *F* and *Hausman test* is made since it increases the generalizability of the research's findings, which makes them more applicable to populations or settings other than the particular sample and thus also increases external validity. Hence, the results from the random effects regression model provide the basis for this research regardless of whether the overall result of all three regressions indicated the same result in confirming the alternative hypothesis.

Nevertheless, future research is necessary to determine whether there is, in fact, a negative relationship between female peacekeepers, or if there is another factor that influences this relationship in order to make it a positive one. This is made clear by the literature review

and theoretical framework of this thesis, which state clearly that this research anticipates the presence of female peacekeepers having a more positive than negative impact on the economic growth in a host country. Thus, **Chapters 6.2.** explores the limitations of this research as well as prospective areas for further investigation into this subject.

### *5.3. Leamer's and Sala-i-Martin's Robustness Check*

A Leamer's and Sala-i-Martin's robustness check is carried out to ensure that the regression results are as accurate, reliable, and generalizable as possible and are not constrained by any other factors. This statistical approach uses an extreme bound analysis to evaluate how well regression findings hold up to modifications in the model's specification or the addition of control variables. This robustness check makes it possible to locate potential sensitive or weak points in the initial research, which ultimately increases trust in the accuracy and dependability of the conclusions regarding the relationship between the relevant variables (Hlavac, 2016, p. 1).

Leamer's robustness check "determines whether a determinant is robust or fragile" whereas Sala-i-Martin focuses more on "the entire distribution of regression coefficients, not just on its extreme bounds" (Hlavac, 2016, pp. 4-5). By doing this, Sala-i-Martin shifts his emphasis from applying a simple binary level of robust or fragile to one that assigns a level of confidence to the robustness (Hlavac, 2016, p. 5).

The intercept appears to be fragile when examining the Leamer's robustness check results. This implies that even minor adjustments to the model or data have a significant impact on the estimated coefficient. However, the test indicates that the coefficient for the independent variable (Female_PK) that represents the estimated impact on economic growth (GDP_Growth_year_after) is robust. This demonstrates that the variable's relationship with the outcome variable (GDP_Growth_year_after) is consistent and reliable. The same is true for just the variable measuring the share of female peacekeepers when considering its effect across various datasets or populations. The coefficient is frequently employed as the analysis' main focus because it sheds light on how the independent and dependent variables relate to one another; as a result, it is crucial that the results are robust.

Consequently, the Leamer's robustness indicates that, while the impact of the independent variable on the dependent variable is stable and dependable, the predicted baseline level of the outcome variable may be susceptible to various modeling assumptions or data outliers. The data does certainly contain outliers, particularly for certain variables like state fragility, inflation rate, and net foreign investment, which have an impact on the estimate's overall robustness and cause the intercept to be fragile. Therefore, it is important to exercise caution when interpreting the results because of the intercept's fragility and the Female_PK's coefficient's robustness. It can be difficult to estimate the independent variables' exact effects on the outcome variable, which contributes to the fragility of the intercept for this study, as the data for this study does indeed contain some missing values and there may be some interaction effects that affect the relationship between the independent and dependent variables. The research's limits must therefore be clearly stated in order to avoid drawing too many presumptuous inferences and final conclusions from these results. The limitations and potential areas for future research will therefore be covered in greater detail in **Chapter 6.2.**

Similar results to Leamer's robustness check were shown in the Sala-i-Martin's robustness check. The results for the intercept show that it is not completely robust because only a 17.9% increase in the proportion of coefficients less than or equal to 0 occurs when uncertainty is accounted for using Gibbs sampling. The Gibbs sampling is frequently used to stimulate the distribution of model parameters (see Gelfand, 2000). This result is consistent with the Leamer's robustness test. The estimated coefficient for the independent variable, which has a CDF value of 99.960, is fairly high, supporting the findings that the variable pertaining to the share of female peacekeepers is statistically significant and underscoring its robustness as determined by the Leamer's robustness test.

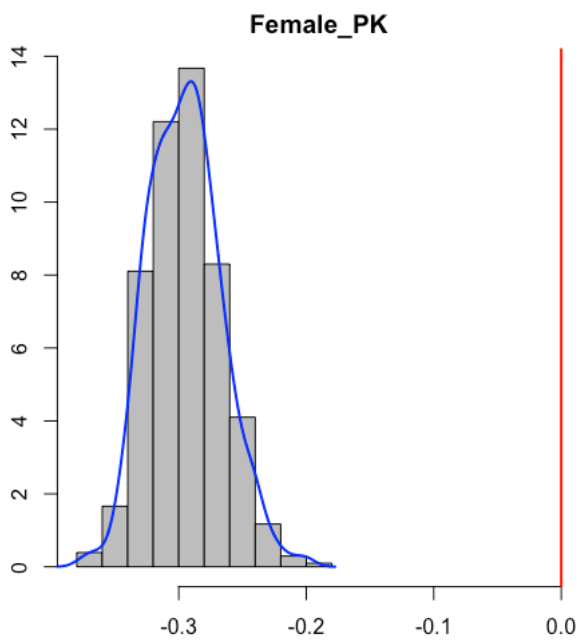



**Figure 12** shows the distribution of the coefficients for the independent variable on the outcome variable. The majority of the histogram bins' area is to the left of zero, indicating that as the value of the share of female peacekeepers increases, the estimated effect on the outcome variable (GDP Growth) is negative. This outcome indicates that having more female peacekeepers is associated with a decrease in the economic growth in a country.

**Figure 12:** Leamer's and Sala-i-Martin's Robustness Check

Overall, the study's robustness can be viewed as being fairly weak as evidenced by the R-squared, Leamer's, and Sala-i-Martin's robustness checks. This could be as a result of data limitations brought on by missing values and other variables that have an impact on the pertinent variables. Therefore, in order to improve the validity of the analysis, future research should take these constraints into account. This can entail filling in any gaps in the data or expanding the model with new variables to better account for the key variables that affect the dependent variable.

# 6. Discussion

The findings of the regressions that were conducted to investigate the research question and test the hypothesis were presented in **Chapter 5.** The findings revealed a negative relationship between the two primary variables, thus confirming **Hypothesis 1**. In essence, this means a negative correlation is found between the share of female peacekeepers and a host country's economic growth. The literature review and theoretical framework chapters suggested that there may likely be a positive correlation between the key independent and dependent variables, based on the assumption that the presence of female peacekeepers is beneficial for the social factors of host countries. The results of the random effects regression, however, show a negative relationship with a relatively low robustness. Therefore, it is critical to properly understand this data and its limitations, its implications for this thesis's research question, as well as future research opportunities.

## *6.1. Main Findings*

This study sought to investigate if there is a relationship between the presence of female peacekeepers and the host country's economic growth. For this investigation, a random effects regression model was used, which revealed a negative association between the two variables. When the variables pertaining to battle-related deaths and the overall number of peacekeepers in UN peacekeeping operations were taken into consideration, this negative association was also confirmed. These findings therefore demonstrate that economic growth slows down as the share of female peacekeepers increases. Additionally, the highest level of statistical confidence (at the 1% level) indicated that all three results were statistically significant. The random effects regression therefore revealed a negative association because of the share of female peacekeepers (Female_PK), conflict intensity (Battle_Related_Deaths), and the total of peacekeepers in a mission (Peacekeepers_total) variables' strong statistical significance.

This finding stands in stark contrast to the predictions made in the thesis's literature review and theoretical framework. These chapters indeed demonstrated how female peacekeepers positively influence social factors in a host country, such as lowering battle-related deaths, decreasing sexual exploitation, increasing education rates, and establishing trust with the local population (Huber, 2022, p. 2; United Nations Peacekeeping, 2017). The literature demonstrated that improving social conditions could act as channels — channels that

positively influence economic conditions in a host country. Therefore, the random effects regression's findings show the opposite: just because female peacekeepers have a favorable social impact on a country, does not mean their presence is equally beneficial for economic outcomes. Upon further consideration, this result may have been located due to the research's own limitations. As a result of this, future research on this subject must take a variety of additional factors into consideration.

### *6.2. Limitations of the research and recommendations for future research*

According to the literature review and theoretical framework chapters, female peacekeepers have a beneficial impact on the social aspects of the host country, which could in turn boost their domestic economies as well. The random effects regression results in this study, however, show the opposite finding. There are, resultantly, several limitations in this study that must be considered in order to fully understand these findings. While some limitations are more generally related to the complexity of the relationship between the two primary variables, others are more specifically related to the data and research itself.

#### 6.2.1. Limitations from complex relationships within and between variables

First, the impact of many confounding variables that are not employed in this study may help explain the complex relationship between female peacekeepers and economic growth. These confounding factors may be correlated with both the share of female peacekeepers and the rate of economic growth of a country. Despite the fact that this study took many additional factors into consideration in order to mitigate confounding effects, there are always additional factors that could have been considered. In this case, such factors could have included more precise variables relating to the degree of war, education level, and overall political instability in a country. These variables might have had an impact on the regression's overall findings. However, due to time restrictions, it was not possible to fully investigate each potential confounding factor in this research.

Furthermore, it is important to note that the thesis's findings of a negative correlation between female peacekeepers and economic growth, do not necessarily imply a causal relationship. Since a causal relationship can not necessarily be deduced given the fact that additional factors may be at play, it is indeed a fair assumption that there is more to this

relationship than just the association between the independent and dependent variables of interest. As a result, future studies must consider the impact of potential confounders.

The decision was made to consider a broad view of female peacekeepers and avoid categorizing them based on their activities and roles within a UN peacekeeping deployment. This decision was made due to time restrictions and inconsistencies in the data provided by the UN. As a result, since some tasks and responsibilities for peacekeepers are explicitly designed for creating institutions and promoting economic growth, the research may have overlooked significant details about how female peacekeepers help create economic success. Therefore, the negative relationship between the share of female peacekeepers and economic growth in a host country could be further explained by the fact that the female peacekeepers' individual responsibilities are not separated from one another. This is crucial because some of their tasks may be specifically created for initiatives aimed at fostering economic prosperity in a host country, such as supporting vulnerable populations and working to promote economic stability by fostering trust between communities. Future research should consider the many responsibilities and tasks that female peacekeepers have, which may indeed make it so that the findings align with those provided in the literature review and theoretical framework. Having this task distinction considered in future research could thus help better understand how women's participation in peacekeeping operations fully impacts economic growth in nations impacted by armed conflict.

Beyond this matter, another key factor to take into consideration is the matter of nations who are sending in peacekeeping personnel. Referred to as sending nations, these countries are contributing personnel to participate in peacekeeping operations organized by international organizations such as the UN (United Nations Peacekeeping, 2023). Due to traditional gender roles being observed in some nations, discrimination against women, safety concerns, and a lack of resources, some sending countries are still less willing to send more female peacekeepers to conflict-prone regions (Candela, 2018). Instead, these countries may send women to more peaceful zones (Crawford et al., 2015, pp. 268-269). The random effects regression results may change if these factors are controlled for in future research, since they help clarify why there are still so few women serving as peacekeepers.

On this note, there may also be a negative relationship between female peacekeepers and economic growth due to the limited number of female peacekeeper personnel in general.

Since there are so few women serving as peacekeepers, it is indeed difficult for them to significantly influence the economic growth of countries they are serving in. This consideration may help explain the negative relationship between female peacekeepers and economic growth. The low number of women serving as peacekeepers is also consistent with findings in the literature review, which show that even 20 years after Resolution 1325, there are still only a few female peacekeepers deployed in each host country (Newby & Sebag, 2020, p. 148). Hence, the efficacy of UN peacekeeping missions as a whole may even be impacted by the low number of female peacekeepers. Since there are not many female peacekeepers in total, there may also be additional barriers that prevent them from fully participating in their host country. Such obstacles may originate in their sending countries as well as in the host countries, for example, through cultural, and gender-based discrimination. These barriers can make it more difficult to develop the kind of relationships and trust with the local community that are essential for effective peacekeeping operations, which in turn could promote economic growth in the respective countries. This reality thus makes it difficult for this study to fully explain the impact of female peacekeepers on the economic growth in a host country, without adding further controls. As a result, considering the low number of female peacekeepers will be important for future regression analyses in this field.

### 6.2.2. Data Limitations

Moving past the broader structural factors there are also limitations imposed by the data itself. One such limitation regards the availability of data in general. The reliability and accuracy of this analysis may have been compromised by the fact that data on female peacekeepers is only available starting in 2006, and the data for some control variables is only offered up until 2019. Furthermore, some control variables had several missing values, which could have potentially also led to inaccurate and incomplete conclusions. Indeed, some figures may have been missing because many countries under consideration are either fully or partially embroiled in conflict, which makes it challenging to always locate reliable data for them. Furthermore, the time period between 2006 and 2019 is rather short, making it challenging to immediately draw a significant connection between the two factors. The impact of a UN peacekeeping deployment on economic growth in the host countries may resultantly not be immediately visible, and thus, future studies should take into account the issue of missing variables and timing.

Additionally, because the data is gathered in different ways and is a product of various political, social, and economic contexts, it may be difficult to directly compare data from various nations. The majority of the data is aggregated at the national level, which could conceal variation within a nation. This is because UN peacekeeping operations frequently only cover just a fraction of a nation's territory where a conflict zone is located, which is occurring in a very specific context. Therefore, it is possible that some areas within a country have a more pronounced negative correlation between female peacekeepers and economic growth, preventing us from understanding the complete picture. Hence, these limitations also need to be controlled for in future studies.

These aforementioned limitations can also be used to explain the low robustness demonstrated in **Chapter 5**. Despite the fact that the research offered insightful information about the potential link between female peacekeepers and economic growth in a host nation, its limitations and restrictions due to potential confounding variables, data accessibility, missing values, and the challenge of fully comprehending the complexity of the relationship suggest that the findings of this thesis mean these results should be considered cautiously. Furthermore, the study's overall low score on robustness may have happened as a result of only investigating female peacekeepers as a whole, and not considering their divisions of tasks and responsibilities. These limitations must be taken into account in future research. By doing so, it is possible to investigate the relationship more comprehensively and accurately between the two variables. And after taking into account all of the limitations, it might even be possible to reach a conclusion that is in line with the vast majority of scholarly research about how women play crucial roles in promoting long-term stability and peace in conflict-affected areas of the world. Nevertheless, because there has not been a great deal of academic research on how female peacekeepers affect economic growth, this study can indeed still serve as a starting point for more in-depth investigations.

# 7. Conclusion

Due to the general complexity of the conflicts worldwide, UN peacekeeping operations are currently focused on identifying how to carry out their missions best and most successfully. This is as a result of the intricacy of contemporary conflicts around the world, where "small-scale, lightly-armed, high-tech-enabled, mounted groups capable of inflicting great damage in a short period of time" are becoming more common (Tuvdendarjaa, 2022). This type of hostility presents new difficulties for UN peacekeeping missions, necessitating their reform. The reforms are indeed comprehensive and scope, principally including locating more efficient means of retaliation in order to safeguard civilians, create security, and try to develop functional governance systems in the host countries that will eventually be able to perform their duties independently (Tuvdendarjaa, 2022). This all means that the main objective of UN peacekeeping operations is to assist conflict-affected nations in laying the groundwork for long-lasting peace and stability, which can ultimately also help boost the nation's economic prosperity (United Nations Peacekeeping, 2017).

Therefore, UN peacekeeping must be reformed in order to create the groundwork for long-term peace and stability. Focusing more on the significance of including more female peacekeepers in deployments is one way to revise the concept of UN peacekeeping operations. This is because there is mounting academic evidence that the presence of female peacekeepers enhances social conditions in a host country, such as a decrease in battle-related deaths, an increase in education rates, and a reduce in sexual exploitation (Huber, 2022, p. 2; United Nations Peacekeeping, 2017; Nagel et al., 2021). It is therefore reasonable to assume that as the presence of female peacekeepers impacts these social factors, the economic conditions of a host country may also be positively influenced. This is because long-term peace and stability can only be achieved in a host country when all social, political, and economic factors improve. How (female) peacekeepers affect economic growth in a host country, however, has not received enough scholarly investigation (Bove & Elia 2017, p. 712). In light of this, this thesis intended to address this research gap by investigating the question: "*Is there a relationship between female peacekeepers and the economic growth of a host country?"*

This thesis demonstrated that the presence of female peacekeepers has a negative relationship with the economic growth in a host country, when analyzing 35 UN peacekeeping operations between 2006 and 2019. As a result, the random effects regression analysis's

findings indicate that as the number of female peacekeepers increases, economic growth decreases. This finding is statistically significant but has a relatively low robustness. The low level of robustness — as well as the negative correlation — might be explained by the limitations of this study caused by time restrictions, data scarcity, and confounding factors that have not been taken into consideration. Future research must thus consider several limitations and find ways to overcome them.

Despite the fact that the research's findings may appear to be negative in the broader context of feminist academic scholarship, this thesis nonetheless makes a valuable contribution to the field of (female) peacekeepers' effects on economic growth. This is particularly important as this subject is considered very scarcely. However, the thesis's research still acknowledges that the results are surprising in light of the literature review and theoretical framework of this thesis, which expected to find a positive relationship between female peacekeepers and economic growth. The study thus emphasizes the need for further research on this topic, in order to more fully ascertain the nature of this relationship. Future studies that account for all of the constraints outlined would provide more thorough knowledge of the overall influence of female peacekeepers on economic growth and could thus help support the UN in taking steps to improve the effectiveness of peacekeeping missions. One such strategy would be to push for greater female participation to contribute to the idea that, in addition to enhancing social aspects of a host country, women also, over time, have a positive impact on economic and policy considerations in these nations.

## Bibliography


Abadie, A., & Gardeazabal, J. (2003). The economic costs of Conflict: A Case Study of the basque country. *American Economic Review*, *93*(1), 113–132. https://doi.org/10.1257/000282803321455188

Alchin, A., Gouws, A., & Heinecken, L. (2018). Making a difference in peacekeeping operations: Voices of South African women peacekeepers. *African Security Review*, *27*(1), 1–19. https://doi.org/10.1080/10246029.2017.1406381

Alesina, A. & Perotti, R. (1996). Income Distribution, Political Instability, and Investment. European Economic Review Vol. 40: pp 1203- 1228.

Allee, S. (2009). UN Blue: An Examination of the Interdependence between UN Peacekeeping and Peacemaking. *International Journal of Peace Studies*, *14*(1), 83–107.

Allua, S., & Thompson, C. (2009). Inferential Statistics. *Air Medical Journal*, *28*(4), 168–171. https://doi.org/10.1016/j.amj.2009.04.013

Baldez, L. (2006). The Pros and cons of gender quota laws: What happens when you kick men out and let women in? *Politics & Gender*, *2*(01), 102–109. https://doi.org/10.1017/s1743923x06221019

Beardsley, K. (2017). *Advances in the analysis of contributor-level peacekeeping data.* Advances in the Analysis of Contributor-Level Peacekeeping Data, with a Focus on Gender Data. Retrieved December 8, 2022, from https://people.duke.edu/~kcb38/IPK_Data_Forum_kb_final.pdf

Bellamy, A. J., Williams, P., & Griffin, S. (2004). *Understanding peacekeeping*. Cambridge: Polity.

Berkey, C., Hoaglin, D., Mosteller, F., & Colditz, G. (1995). A random-effects regression model for meta-analysis. *Statistics in Medicine*, *14*(4), 395–411. https://doi.org/10.1002/sim.4780140406

Bhavnani, R. (2009). Do electoral quotas 'work' after they are withdrawn? evidence from a natural experiment in India. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1148421

Bigio, J. (2020). *Un peacekeeping recognizes that women are key to lasting peace amid covid-19*. Council on Foreign Relations. Retrieved March 16, 2023, from https://www.cfr.org/blog/un-peacekeeping-recognizes-women-are-key-lasting-peace-amid-covid-19

Bigio, J., & Vogelstein, R. (2018). *Increasing female participation in peacekeeping operations*. Council on Foreign Relations. Retrieved March 16, 2023, from https://www.cfr.org/report/increasing-female-participation-peacekeeping-operations

Bove, V., & Elia, L. (2017). Economic development in peacekeeping host countries. *CESifo Economic Studies*, *64*(4), 712–728. https://doi.org/10.1093/cesifo/ifx009

Bridges, D., & Horsfall, D. (2009). Increasing operational effectiveness in UN peacekeeping. *Armed Forces & Society*, *36*(1), 120–130. https://doi.org/10.1177/0095327x08327818

Briscoe, I. (2014). Conflict, security and emerging threats. *Clingendael Strategic Monitor 2014*, 1–10.

British Library (n.d.). *What are typical quantitative research questions?* British Library. Retrieved May 1, 2023, from https://www.bl.uk/business-and-ip-centre/articles/what-are-typical-quantitative-research-questions

Callen, T. (n.d.). *Gross domestic product: An economy's all*. IMF. Retrieved March 16, 2023, from https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/gross-domestic-product-GDP#:~:text=GDP%20is%20important%20because%20it,the%20economy%20is%20doing%20well.

Campbell, D., & Stanley, J. (1963). *Experimental and Quasi-Experimental Design for Research* . Houghton Mifflin Company.

Candela, K. (2018). *Women in peacekeeping: A status report*. Peacebuilding Deeply. Retrieved March 20, 2023, from https://deeply.thenewhumanitarian.org/peacebuilding/community/2018/08/17/women-in-peacekeeping-a-status-report

Carnahan, M., Durch, W., & Gilmore, S. (2006). (rep.). *Economic Impact of Peacekeeping*. Peace Dividend Trust - Building a Better Peace.

Caruso, R., Khadka, P., Petrarca, I., & Ricciuti, R. (2016). The economic impact of peacekeeping. evidence from South Sudan. *Defence and Peace Economics*, *28*(2), 250–270. https://doi.org/10.1080/10242694.2015.1122282

Caul, M. (2001). Political parties and the adoption of candidate gender quotas: A cross-national analysis. *The Journal of Politics*, *63*(4), 1214–1229. https://doi.org/10.1111/0022-3816.00107

Chaplin, D. D., Cook, T. D., Zurovac, J., Coopersmith, J. S., Finucane, M. M., Vollmer, L. N., & Morris, R. E. (2018). The internal and external validity of the regression discontinuity design: A meta-analysis of 15 within-study comparisons. *Journal of Policy Analysis and Management*, *37*(2), 403–429. https://doi.org/10.1002/pam.22051

Charter of the United Nations (1945). *Charter of the United Nations*. Charter of the United Nations and Statute of the International Court of Justice. Retrieved December 8, 2022, from https://treaties.un.org/doc/publication/ctc/uncharter.pdf

Clayton, G., & Dorussen, H. (2021). The effectiveness of mediation and peacekeeping for ending conflict. *Journal of Peace Research*, *59*(2), 150–165. https://doi.org/10.1177/0022343321990076

Crawford, K. F., Lebovic, J. H., & Macdonald, J. M. (2015). Explaining the variation in gender composition of personnel contributions to UN Peacekeeping Operations. *Armed Forces & Society*, *41*(2), 257–281. https://doi.org/10.1177/0095327x14523416

De Groot, O. J., Bozzoli, C., Alamir, A., & Brück, T. (2022). The global economic burden of violent conflict. *Journal of Peace Research*, *59*(2), 259–276. https://doi.org/10.1177/00223433211046823

DeGroot, G. J. (2001). A few good women: Gender stereotypes, the military and peacekeeping. *International Peacekeeping*, *8*(2), 23–38. https://doi.org/10.1080/13533310108413893

Di Leo, G., & Sardanelli, F. (2020). Statistical significance: P value, 0.05 threshold, and applications to radiomics—reasons for a conservative approach. *European Radiology Experimental*, *4*(1), 2–8. https://doi.org/10.1186/s41747-020-0145-y

Di Salvatore, J., & Ruggeri, A. (2017). Effectiveness of peacekeeping operations. *Oxford Research Encyclopedia of Politics*. https://doi.org/10.1093/acrefore/9780190228637.013.586

Diehl, P. F. (1988). Peacekeeping Operations and the quest for peace. *Political Science Quarterly*, *103*(3), 485–507. https://doi.org/10.2307/2150760

Diehl, P. F., & Druckman, D. (2010). Evaluating peace operations. *Lynne Rienner Publishers.* https://doi.org/10.1515/9781685856922

Dorussen, H. (2014). Peacekeeping works, or does it? *Peace Economics, Peace Science and Public Policy*, *20*(4), 527–537. https://doi.org/10.1515/peps-2014-0039

Dorussen, H., & Gizelis, T.-I. (2013). Into the lion's den: Local Responses to UN Peacekeeping. *Journal of Peace Research*, *50*(6), 691–706. https://doi.org/10.1177/0022343313484953

Doyle, M. W., & Sambanis, N. (2010). *Making war and building peace: United nations peace operations*. Princeton University Press.

Fallon, M. (2016). *Writing up quantitative research in the Social and Behavioral Sciences*. Brill | Sense.

Fang, S. K. (2020). *The economic consequences of conflict in Sub-Saharan Africa*. IMF Working Paper. Retrieved May 1, 2023, from https://www.imf.org/en/Publications/WP/Issues/2020/10/30/The-Economic-Consequences-of-Conflict-in-Sub-Saharan-Africa-49834

Findley, M. G., Kikuta, K., & Denly, M. (2021). External validity. *Annual Review of Political Science*, *24*(1), 365–393. https://doi.org/10.1146/annurev-polisci-041719-102556

Flén, E., & Terävä, S. (2010). Tuo sotilas on tyttö – Miksi naisia tarvitaan rauhanturvatehtäviin? . In P. Jukarainen (Ed.), *Tasa-arvoinen turvallisuus? Sukupuolten yhdenvertaisuus suomalaisessa maanpuolustuksessa ja kriisinhallinnassa* (pp. 91–109). essay, Hämeenlinna: Minerva kustannus, Kariston kirjapaino.

Fortna, V. P. (2004). Does peacekeeping keep peace? international intervention and the duration of peace after Civil War. *International Studies Quarterly*, *48*(2), 269–292. https://doi.org/doi.org/10.1111/j.0020-8833.2004.00301.x

Fortna, V. P., & Howard, L. M. (2008). Pitfalls and prospects in the peacekeeping literature. *Annual Review of Political Science*, *11*(1), 283–301. https://doi.org/10.1146/annurev.polisci.9.041205.103022

Fund For Peace (2022). *Fragile State Index*. Fragile States Index. Retrieved March 21, 2023, from https://fragilestatesindex.org/

Gelfand, A. (2000). Gibbs Sampling. *Journal of the American Statistical Association*, *95*(452), 1300–1304.

Gelman, A., & Hill, J. (2006). *Data Analysis: Using Regression and Multilevel/Hierarchical Models*. Columbia University.

Gyimah-Brempong, K., Paddison, O., & Mitiku, W. (2006). Higher education and economic growth in Africa. *The Journal of Development Studies*, *42*(3), 509–529. https://doi.org/10.1080/00220380600576490

Halunga, A. G., Orme, C. D., & Yamagata, T. (2017). A heteroskedasticity robust Breusch–pagan test for contemporaneous correlation in dynamic panel data models. *Journal of Econometrics*, *198*(2), 209–230. https://doi.org/10.1016/j.jeconom.2016.12.005

Hanasono, L. (2017). External Validity. *The Sage Encyclopedia of Communication Research Methods*, 480–483. https://doi.org/doi.org/10.4135/9781483381411

Hebert, L., & Svedberg, E. (2012). Analyzing UN and Nato responses to sexual misconduct in peacekeeping operations. In A. Kronsell (Ed.), *Making gender, making war: Violence, military and peacekeeping practices* (pp. 63–75). essay, Routledge.

Hegre, H., Hultman, L., & Nygård, H. M. (2019). Evaluating the conflict-reducing effect of UN Peacekeeping Operations. *The Journal of Politics*, *81*(1), 215–232. https://doi.org/10.1086/700203

Hiestand, T. (2005). Using pooled model, random model and fixed model multiple regression to measure foreign direct investment in Taiwan. *International Business & Economics Research Journal (IBER)*, *4*(12), 37–52. https://doi.org/10.19030/iber.v4i12.3642

HIIK (2021). *Konfliktbarometer*. HIIK - Konfliktbarometer. Retrieved March 16, 2023, from https://hiik.de/konfliktbarometer/bisherige-ausgaben/

Hlavac, M. (2016). Extremebounds: Extreme bounds analysis in R. *SSRN Electronic Journal*, *72*(9), 1–22. https://doi.org/10.2139/ssrn.2393113

Hsiao, C. (2005). Why panel data? *The Singapore Economic Review*, *50*(02), 143–154. https://doi.org/10.1142/s0217590805001937

Huber, L. (2022). (issue brief). *The Impact of Women Peacekeepers on Public Support for Peacekeeping in Troop Contributing Countries*. IPI - International Peace Institute.

ICRC (2016). *Protracted conflict and humanitarian action: some recent ICRC experiences*. Retrieved March 20, 2023, from https://www.icrc.org/sites/default/files/document/file_list/protracted_conflict_and_humanitarian_action_icrc_report_lr_29.08.16.pdf

International Peace Academy (1984). *Peacekeeper's Handbook*. Pergamon Press.

Jackson, R., Sorensen, G. & Moeller, J. (2003). *Introduction to international relations: Theories and approaches* (2nd ed.). Oxford University Press.

Jeffreys, S. (2007). Double jeopardy: Women, the US military and the war in Iraq. *Women's Studies International Forum*, *30*(1), 16–25. https://doi.org/10.1016/j.wsif.2006.12.002

Jennings, K. (2008). Protecting Whom? Approaches to Sexual Exploitationand Abuse in UN Peacekeeping Operations. *Fafo-Report*, *36*.

Kalicka-Mikolajczyk, A. (2020). *The International Legal Status of Western Sahara*. The Opole Studies in Administration and Law. Retrieved May 1, 2023, from http://portal.amelica.org/ameli/jatsRepo/463/4632029003/html/index.html

Karim, S. (2017). Reevaluating peacekeeping effectiveness: Does gender neutrality inhibit progress? *International Interactions*, *43*(5), 822–847. https://doi.org/10.1080/03050629.2017.1231113

Karim, S. (2019). Women in UN Peacekeeping Operations. *Women and Gender Perspectives in the Military*, 23–40. https://doi.org/10.2307/j.ctv8xngd5.6

Karim, S., & Beardsley, K. (2013). Female peacekeepers and gender balancing: Token gestures or informed policymaking? *International Interactions*, *39*(4), 461–488. https://doi.org/10.1080/03050629.2013.805131

Karim, S., & Beardsley, K. (2016). Explaining sexual exploitation and abuse in peacekeeping missions. *Journal of Peace Research*, *53*(1), 100–115. https://doi.org/10.1177/0022343315615506

Kennedy, P. (2008). *A Guide to Econometrics* (6th ed.). Wiley.

Koops, J. A., MacQueen, N., Tardy, T., & Williams, P. D. (2015). *The Oxford Handbook of United Nations Peacekeeping Operations*.

Krause, J., Krause, W., & Bränfors, P. (2018). Women's participation in peace negotiations and the durability of peace. *International Interactions*, *44*(6), 985–1016. https://doi.org/10.1080/03050629.2018.1492386

Krishnan, S. (2022). *Detailed explanation of panel data - how to identify balanced and unbalanced panel data.* Medium.com. Retrieved May 1, 2023, from https://medium.com/geekculture/detailed-explanation-of-panel-data-how-to-identify-balanced-and-unbalanced-panel-data-fd973fa788ae

Kronsell, A. (2012). *Gender, sex and the postnational defense: Militarism and peacekeeping* (3rd ed., Vol. 16). Oxford University Press.

Medecins sans frontieres (n.d.). The Practical Guide to Humanitarian Law. Retrieved March 16, 2023, from https://guide-humanitarian-law.org/content/article/3/peacekeeping/

Midway, S. (2022). *Random Effects*. Data Analysis in R. Retrieved May 1, 2023, from https://bookdown.org/steve_midway/DAR/

Mueller, H. (2013). The Economic Cost of Conflict. International Growth Centre: Working Paper.

Mueller, H., & Tobias, J. (2016). *The cost of violence: Estimating the Economic Impact of conflict - IGC*. Growth Brief: International Growth Centre. Retrieved May 1, 2023, from https://www.theigc.org/sites/default/files/2016/12/IGCJ5023_Economic_Cost_of_Conflict_Brief_2211_v7_WEB.pdf

Mvukieyehe, E., & Samii, C. (2010). The Subtle Micro-Effects of Peacekeeping: Evidence from Liberia. *APSA 2010 Annual Meeting Paper*. https://doi.org/https://ssrn.com/abstract=1642803

Nagel, R., Fin, K., & Maenza, J. (2021). *Gendered impacts on operational effectiveness of UN Peace Operations*. GIWPS. Retrieved March 16, 2023, from https://giwps.georgetown.edu/resource/gendered-impacts-on-operational-effectiveness-of-un-peace-operations/

Newby, V. F. (2022). Offering the carrot and hiding the stick? *Global Governance: A Review of Multilateralism and International Organizations*, *28*(3), 303–329. https://doi.org/10.1163/19426720-02803003

Newby, V. F., & Sebag, C. (2020). Gender sidestreaming? analysing gender mainstreaming in national militaries and International Peacekeeping. *European Journal of International Security*, *6*(2), 148–170. https://doi.org/10.1017/eis.2020.20

Nomor, T., & Iorember, P. (2017). Political Stability and Economic Growth in Nigeria. *IOSR Journal of Economics and Finance*, *8*(2), 45–53.

OECD iLibrary (n.d.). *Trust in government, policy effectiveness and the governance agenda*. Government at a Glance 2013. Retrieved May 1, 2023, from https://www.oecd-ilibrary.org/docserver/gov_glance-2013-en.pdf?expires=1592810643%26id=id%26accname=guest%26checksum=52E965E00C64547A83FE6B0A0FB392A7

Olsson, L. (2005). Namibian peace operation in a gender context. In A. Mazurana (Ed.), . essay.

Olsson, L., & Gizelis, T.-I. (2014). Advancing Gender and Peacekeeping Research. *International Peacekeeping*, *21*(4), 520–528. https://doi.org/10.1080/13533312.2014.946742

Olvera Astivia, O., & Zumbo, B. (2019). Heteroskedasticity in Multiple Regression Analysis: What it is, How to Detect it and How to Solve it with Applications in R and SPSS. *Practical Assessment, Research, and Evaluation*, *24*(1), 1–16.

Pfaffenholz, T., Ross, N., Dixon, S., Schluchter, A.-L., & True, J. (2015). *Making Women Count - Not Just Counting Women: Assessing Women's Inclusion and Influence on Peace Negotiations*. Inclusive Peace & Transition Initiative. Retrieved December 8, 2022, from https://www.peacewomen.org/sites/default/files/Making%20Women%20Count%20Not%20Just%20Counting%20Women.pdf

Peterson, E. W. (2017). The role of population in economic growth. *SAGE Open*, *7*(4), 215824401773609. https://doi.org/10.1177/2158244017736094

Puechguirbal, N. (2015). Peacekeeping. In L. J. Shepherd (Ed.), *Gender matters in global politics: A feminist introduction to international relations* (2nd ed., pp. 253–267). Essay, Routledge.

Ramsbotham, O. (2016). *Contemporary conflict resolution: The prevention, management and transformation of deadly conflicts* (4th ed.). Cambridge Polity Press.

Sambanis, N. (2008). Short- and long-term effects of United Nations Peace Operations. *The World Bank Economic Review*, *22*(1), 9–32. https://doi.org/10.1093/wber/lhm022

Sambanis, N., & Doyle, M. W. (2007). No easy choices: Estimating the effects of United Nations peacekeeping (response to king and Zeng). *International Studies Quarterly*, *51*(1), 217–226. https://doi.org/10.1111/j.1468-2478.2007.00447.x

Security Council Report. (2008). *Security Council Action Under Chapter VII: Myths and Realities*. Security Council Report. Retrieved May 1, 2023, from https://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/S_2021_890_E.pdf

Seeber, M. (2019). Framework and operationalisation challenges for quantitative comparative research in Higher Education. *Higher Education Quarterly*, *74*(2), 162–175. https://doi.org/10.1111/hequ.12245

Sharland, L. (2019). *Policy brief 2019:7 women, gender and the A4P agenda: An opportunity for action?* ChallengesForum. Retrieved December 8, 2022, from https://www.challengesforum.org/paper/policy-brief-20197-women-gender-and-the-a4p-agenda-an-opportunity-for-action/

Simić, O. (2010). Does the presence of women really matter? towards combating male sexual violence in peacekeeping operations. *International Peacekeeping*, *17*(2), 188–199. https://doi.org/10.1080/13533311003625084

Skaaning, S.-E. (2021). *Lexical index of electoral democracy (LIED) dataset V6.0*. Harvard Dataverse. Retrieved March 19, 2023, from https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi%3A10.7910%2FDVN%2FWPKNIT

Smith, R. P. (2014). The economic costs of military conflict. *Journal of Peace Research*, *51*(2), 245–256. https://doi.org/10.1177/0022343313496595

Solotaroff, J. (2020). *Exploring links between democracy and women's economic empowerment*. World Bank Blogs. Retrieved March 16, 2023, from https://blogs.worldbank.org/opendata/exploring-links-between-democracy-and-womens-economic-empowerment

Storonyanska, I., Ivashko, O., & Mieszajkina, E. (2022). Trust as a Catalyst of Economic Growth: A National and Regional Breakdown. *MDPI*, 1–14. https://doi.org/10.3390/su142215168

The World Bank (2021a). *Proportion of seats held by women in National Parliaments (%)*. Data. Retrieved March 20, 2023, from https://data.worldbank.org/indicator/SG.GEN.PARL.ZS

The World Bank (2021b). *GDP per capita (current US$)*. World Bank Open Data. Retrieved May 1, 2023, from https://data.worldbank.org/indicator/NY.GDP.PCAP.CD

The World Bank (2021c). *Foreign direct investment, net inflows (BOP, current US$)*. World Bank Open Data. Retrieved May 1, 2023, from https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD

The World Bank (2021d). *Inflation, consumer prices (annual %)*. World Bank Open Data. Retrieved May 1, 2023, from https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG

The World Bank (2021e). *Population, total*. World Bank Open Data. Retrieved May 1, 2023, from https://data.worldbank.org/indicator/SP.POP.TOTL

The World Bank (2021f). *Gini Index*. World Bank Open Data. Retrieved May 1, 2023, from https://data.worldbank.org/indicator/SI.POV.GINI

The World Bank (2021g). *GDP growth (annual %)*. Data. Retrieved March 16, 2023, from https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG

Tumbaz, M. N., & İpek, M. (2020). Energy demand forecasting: Avoiding multi-collinearity. *Arabian Journal for Science and Engineering*, *46*(2), 1663–1675. https://doi.org/10.1007/s13369-020-04861-4

Tuvdendarjaa, M. (2022). *Challenges of the United Nations Peacekeeping Operations*. Asia-Pacific Center for Security Studies. https://dkiapcss.edu/nexus_articles/challenges-of-the-united-nations-peacekeeping-operations/

Ugur-Cinar, M., Cinar, K., & Kose, T. (2020). How does education affect political trust?: An analysis of moderating factors. *Social Indicators Research*, *152*(2), 779–808. https://doi.org/10.1007/s11205-020-02463-z

UN Women (2013). (rep.). *The Contribution of UN Women to Increasing Women's Leadership and Participation in Peace and Security and in Humanitarian Response* (pp. 1–28). UN Women.

UNESCO (2011). *The Hidden crisis: armed conflict and education; EFA global monitoring report, 2011*. Unesco.org. Retrieved May 1, 2023, from https://unesdoc.unesco.org/ark:/48223/pf0000190743

United Nations Peacekeeping (2017). *UN Peacekeeping: A year in review peacekeeping*. United Nations. Retrieved December 8, 2022, from https://peacekeeping.un.org/en/un-peacekeeping-year-review-0

United Nations Peacekeeping (2022a). *Gender peacekeeping*. United Nations. Retrieved March 16, 2023, from https://peacekeeping.un.org/en/gender

United Nations Peacekeeping (2022b). *Troop and police contributions peacekeeping*. United Nations. Retrieved March 16, 2023, from https://peacekeeping.un.org/en/data-troop-and-police-contributions

United Nations Peacekeeping (2022c). *Data Peacekeeping*. United Nations. Retrieved March 16, 2023, from https://peacekeeping.un.org/en/data

United Nations Peacekeeping (2023). *What is Peacekeeping*. United Nations Peacekeeping. Retrieved May 1, 2023, from https://peacekeeping.un.org/en/what-is-peacekeeping#:~:text=Today's%20multidimensional%20peacekeeping%20operations%20are,elections%2C%20protect%20and%20promote%20human

United Nations Peacekeeping (n.d.). *Women in peacekeeping*. United Nations. Retrieved March 16, 2023, from https://peacekeeping.un.org/en/women-peacekeeping

United Nations Security Council (2022). *Field Missions Dashboard Security Council*. United Nations. Retrieved March 20, 2023, from https://www.un.org/securitycouncil/content/field-missions-dashboard

United Nations (2015). Identical letters dated 17 June 2015 from the Secretary-General addressed to the President of the General Assembly and the President of the Security Council. New York; New York.

United Nations (n.d.). *Transforming our world: The 2030 agenda for sustainable development | department of economic and social affairs*. United Nations. Retrieved March 16, 2023, from https://sdgs.un.org/2030agenda

University of Washington (2019). *GBD results*. Institute for Health Metrics and Evaluation. Retrieved May 1, 2023, from https://vizhub.healthdata.org/gbd-results/

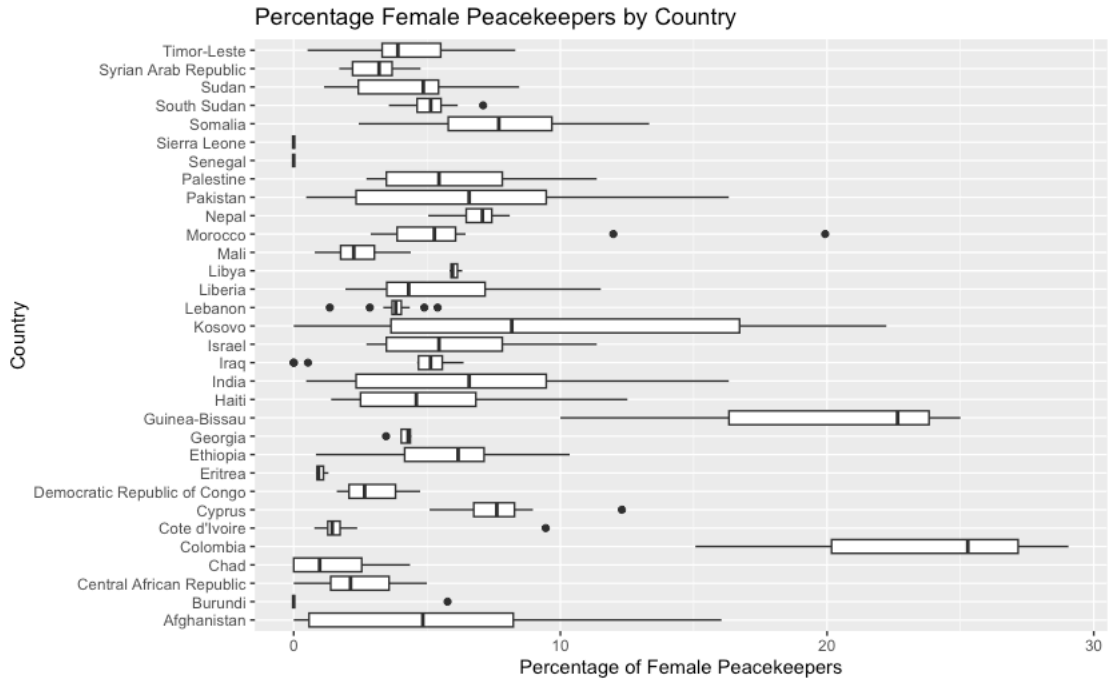
Valenius, J. (2007). A few kind women: Gender essentialism and Nordic Peacekeeping Operations. *International Peacekeeping*, *14*(4), 510–523. https://doi.org/10.1080/13533310701427785

Verbeek, M. (2017). *A Guide to Modern Econometrics* (5th ed.). Wiley Custom.

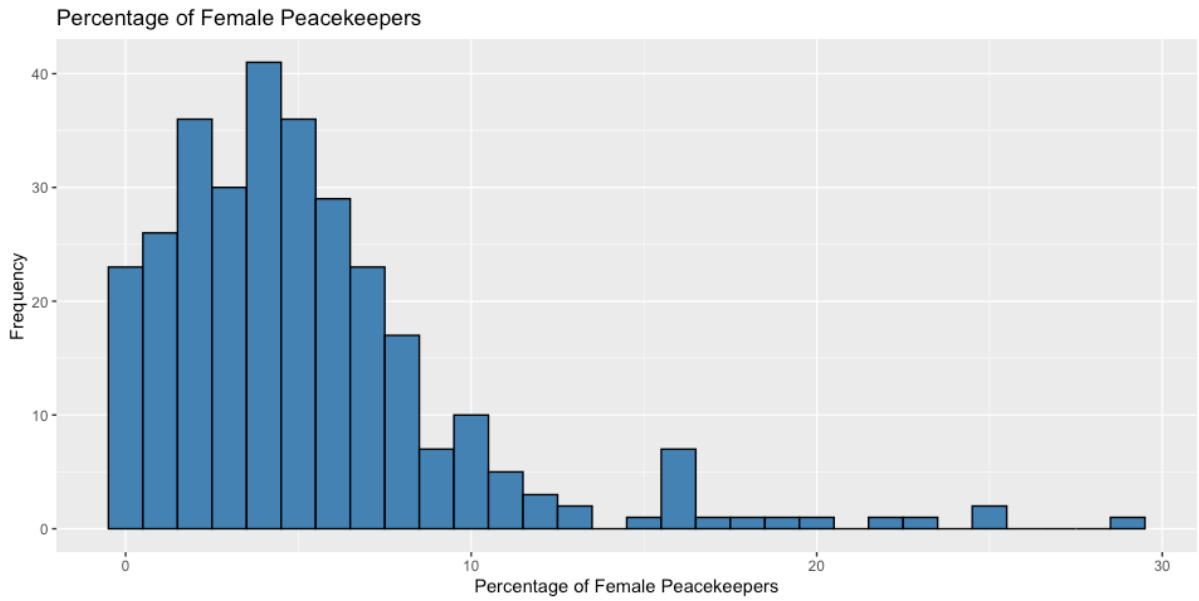
Whitworth, S. (2004). *Men, militarism, and Un Peacekeeping: A gendered analysis*. Lynne Rienner Publ.

Zannier, L. (2015). *Fostering peace and sustainable development*. United Nations. Retrieved March 16, 2023, from https://www.un.org/en/chronicle/article/fostering-peace-and-sustainable-development

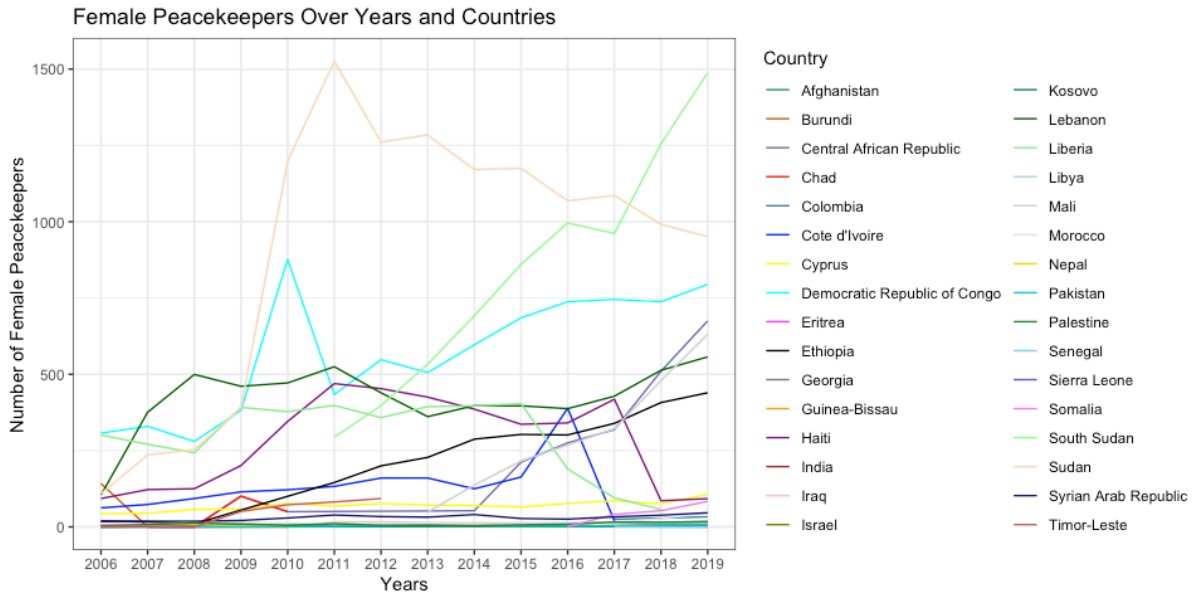
# Appendix




**Appendix 1:** Distribution of Share of Female Peacekeeper in Host Countries with Outliers




**Appendix 2:** Frequency Table for the Share of Female Peacekeepers between 2006-2019




**Appendix 3:** Total Number of Female Peacekeepers between 2006-2019 in Host Countries