

DISAGGREGATED UN FOREIGN AID AND ECONOMIC GROWTH IN AFGHANISTAN, 1990-2023

A Thesis (M.A)

**Submitted to the Master's Study Program of Economics at the Faculty of
Economics and Business in partial fulfilment of the requirements for the degree
of**

Master of Arts in Economics (M.A.)



by:

Sirajuddin Arabzada

03212420006

UNIVERSITAS ISLAM INTERNASIONAL INDONESIA (UIII)

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ABSTRACT

Sirajuddin Arabzada

03212420006

sirajuddin.arabzada@uiii.ac.id

Economics

Universitas Islam Internasional Indonesia

This thesis examines the relationship between disaggregated UN foreign aid and economic growth in Afghanistan over the period from 1990-2023. This study breaks down aid flows provided by United Nations agencies such as the United Nations Development Programme (UNDP), the United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA), and the World Food Programme (WFP) to examine their impact on economic growth in Afghanistan. The study identifies both the short-run and the long-run effects on GDP per capita using the Autoregressive Distributed Lag (ARDL) model. The findings reveal that foreign aid does not have a uniform impact on Afghanistan's economic growth. No long-run effect is identified for any agency and the error-correction term is positive, but insignificant, given the sample of observations is limited to 34 and the long-run implication is not strongly identified. However, disaggregated aid exhibits heterogeneous effects. In the short run, UNFPA aid has a positive and statistically significant effect on GDP per capita, suggesting that investments in health and population programmes contribute to human capital development and economic performance. In contrast, WFP aid shows a mixed short-run pattern: a significant negative contemporaneous effect, reflecting its consumption-oriented humanitarian role, followed by a significant positive effect after four years. Overall, the results suggest that the effectiveness of foreign aid depends on its type, timing, and institutional channel. The findings further indicate that strengthening institutional capacity, improving governance, and prioritizing development-oriented assistance are essential to enhance the long-term effectiveness of foreign aid in supporting sustainable economic growth in Afghanistan.

Keywords: Disaggregated, UN Foreign Aid, ARDL, Afghanistan, Economic Growth.

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CHAPTER I

INTRODUCTION

Figure 1.1. Map of Afghanistan (Study Area)



Source: United Nations Geospatial (2020)

Figure 1.1 situates Afghanistan within its regional context, bordered by Iran, Pakistan, Turkmenistan, Uzbekistan, Tajikistan, and China. This geography is directly relevant to the study's empirical focus: Afghanistan's landlocked position and shared borders with politically unstable and, at times, conflict-affected neighbors have historically constrained trade routes, disrupted supply chains for humanitarian and development assistance, and shaped the geopolitical calculations behind donor engagement. The country's internal geographic diversity — including remote, mountainous provinces with limited infrastructure — also helps explain the logistical challenges that UN agencies such as WFP have faced in reaching conflict-affected and food-insecure populations, which is consistent with the humanitarian, emergency-response orientation of WFP aid discussed in the empirical findings of Chapter 4. In this way, the geographic and locational factors depicted in Figure 1.1 help contextualize both the volatility in aid flows documented in Table 1.1 and the heterogeneous short-run and long-run effects of disaggregated UN aid estimated later in this thesis.

Table 1.1 Major Events and Foreign Aid Trends in Afghanistan (1990-2023)

Period	Major Event	Foreign Aid Trend	Key Implication
1990–2000	Civil conflict and political instability	Low aid inflows	Limited development investment, emergency relief.
2001–2004	Bonn Agreement	Rapid increase in aid	Reconstruction, governance, health and education grew.
2009–2012	Peak reconstruction period	Highest aid inflows	Scaled-up public investment and institutional backing.
2014–2020	NATO troop withdrawal	Decline in development aid	Development slowed due to reduced donor funding.
2021–2023	Political transition	Shift from development to humanitarian aid	The decision was made to stop providing long-term development aid and switch to relief.

Source: Author's compilation from OECD (2023), World Development Indicators (2025), United Nations (2023) and literature.

Table 1.1 provides a summary of the key political developments that affected the quantity and quality of foreign assistance to Afghanistan. These historical changes are important background information for examining the role that aid could play in fostering economic growth in the years of the study from 1990 to 2023.

1.1 Background of the Study

Conflict, regime change, humanitarian crises, and the changing international priorities have determined the pattern and the trend of the foreign aid flow into Afghanistan that started in 1990. In the 1990s, Afghanistan was one of the most aid-reliant fragile states; still, the total inflows were quite small and dominated by humanitarian aid because of political isolation and civil war (Minoiu & Reddy, 2010). Between 1990 and 2000, the average official development assistance (ODA) was less than US\$ 300 million, which indicated a minimal state of development involvement and low coordination of donors (WDI, 2023). A substantial structural change took place in the post-2001 period. After the Bonn Agreement and military intervention by the international community, Afghanistan became one of the largest aid-recipient countries worldwide. Between 2001 and 2004, net ODA increased to over US\$ 14,400 million, reaching as high as US\$ 11-12 billion in 2006-2007 (OECD, 2002). This stage marked a shift from short-term to large-scale reconstruction, institutional reform, and infrastructure development funding (Hamkar, 2024). But since 2013, the amount of foreign aid has been dropping in a constantly manner due to the drawdown of NATO,

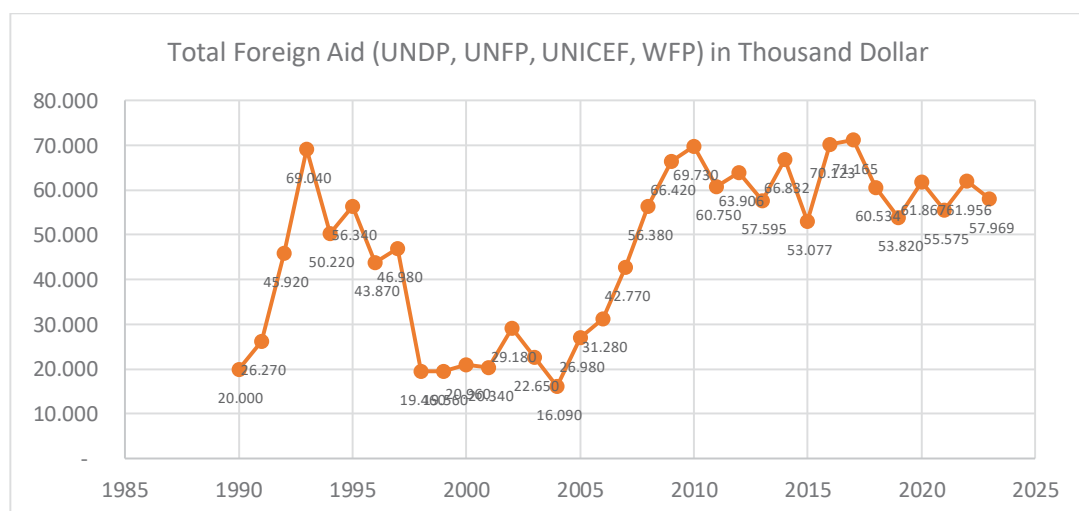
donor fatigue, and the effectiveness of governance (Burke & Adam, 2006). Following the 2021 political transition, the development aid was severely reduced, and the inflows were dominated by humanitarian aid. These drastic ups and downs, highs and lows indicate that the trend of aid in Afghanistan has not been linear but a turbulent development of aid depending on the status of security and politics (OECD, 2023; United Nations, 2023). This long-run trend is important to understand since it allows them to understand the historical backgrounds under which foreign aid has been functioning, as well as forms the basis upon which they can evaluate the economic impact of foreign aid.

Moreover, how this foreign aid can affect the growth of the Afghan economy is highly linked to the macroeconomic trend of the country, in the sense that it reflects on the fluctuations of the GDP per capita, which has been replicated by the surge and decline in aid programs. In 2002, the GDP per capita of Afghanistan was about US\$179, illustrating the destruction of the long-term war (WDI, 2023). Under the influence of aid-financed consumption, state investment, and growth in the service sector, GDP per capita has surged over three times, to an estimated value of US\$ 645 in 2012, in the period 2003-2012, when the inward flow of aid reached its peak.

In addition to the overall volumes, the transformation of various forms of foreign aid to Afghanistan has also been accompanied by major implications of change in composition, having a heterogeneous underpinning of both short-run and long-run economic outcomes. This assistance was concentrated in the early 2000s more on humanitarian aid and simple delivery of services, dealing with food insecurity, displacement, and health crises (Mohamed & Mzee, 2017). In contrast, an increasing number started to focus on developmental and state-building aid, such as infrastructure, education, and governance reforms (Clemens et al., 2012). The shift to a largely humanitarian form of aid reappeared after 2015 and particularly after 2021, when aid flows were estimated by the UN to be over 70 per cent of an emergency character (UN, 2023). Such historical change is important as humanitarian assistance is known to create immediate consumption buffering and poverty reduction, whereas development assistance is theorized to have impacts on long-term productivity, human capital, and the quality of institutions (Nasery, 2014). So, the history of assistance in Afghanistan has unstable trends as well as heterogeneous forms. Primary emphasis on

the history of aid flows thus gives the empirical basis for subsequent evaluation of whether these various eras and constructions of aid have varying growth impacts across time. Considering the magnitude of foreign aid in Afghanistan, and relying on aid to stabilise the country in fiscal terms, it is important to comprehend the variance in the effects of the types of aid. Since aid flows have become much smaller than they were after 2021, and development funding has reduced dramatically, there is now an even greater necessity to rely on evidence-based choices about which aid sectors generate the highest economic performance (Tanveer et al., 2019). The current study addresses this gap by evaluating the effects of disaggregated assistance in Afghanistan, namely the assistance provided by UNDP, UNFPA, UNICEF, and WFP, on the economic development of this country between 1990 and 2023. Rather than employing the total ODA, this study modulates agency-specific aid variables. It combines them with the dominance of macroeconomic and structural impacts (FDI, exports) and employs them to create their individual contributions to GDP per capita.

Figure 1.2. Total foreign aid (UNDP, UNFPA, UNICEF, WFP) in Afghanistan from 1990 to 2023



Source: Author's computation

Figure 1.2 illustrates the trend of foreign aid provided by four United Nations agencies, UNDP, UNFPA, UNICEF, and WFP, to Afghanistan from 1990 to 2023. The data show substantial fluctuations in aid disbursements over the study period, reflecting changes in Afghanistan's political, economic, and humanitarian conditions. A significant increase in aid flows occurred after 2001, following intensified international engagement and reconstruction efforts in the country. Total aid from

these organizations grew significantly from 2005 onwards, with a particularly high level of aid between 2008 and 2011 when there was considerable humanitarian assistance, institutional rebuilding, health, food security and social development assistance (World Development Indicators, 2025, and respective UN agencies).

There were different development mandates for each agency. UNDP primarily focused on governance, institutional strengthening, and socioeconomic development; UNFPA primarily worked on reproductive health and population-related programmes; UNICEF primarily worked on child protection, education, nutrition and health services; and WFP mainly on food assistance and emergency humanitarian assistance. The different nature of the allocation of aid from these agencies shows differences in their development priorities and intervention strategies over time (UNDP, 2023; UNICEF, 2023; UNFPA, 2023; WFP, 2023).

While these agencies have offered significant support, Afghanistan has also experienced a number of economic difficulties, such as slow economic growth, weak institutions, high rates of poverty, and reliance on external support. This poses an important question as to whether the contribution of the different UN agencies to economic growth is equal or do their effects differ depending on the program characteristics and their sectoral objectives. Although previous studies have extensively examined the relationship between aggregate foreign aid and economic growth, empirical evidence on the growth effects of disaggregated aid from specific UN agencies remains limited, particularly in the context of Afghanistan. Therefore, examining the relationship between UNDP, UNFPA, UNICEF, and WFP aid and economic growth is important for understanding the differential contributions of agency-specific aid to Afghanistan's development outcomes.

The goal of this research is to examine the impact of disaggregated foreign aid on economic growth in Afghanistan. The connection between different forms of foreign aid and economic development is one of the most controversial issues in economic development over the past few decades. Since the introduction of the Two-Gap Model, which was developed (Chenery & Strout, 1966), the assumption that the developing countries were caught in a persistent shortage of domestic savings and foreign exchange, which can only be filled through outside aid, researchers have attempted to measure the effect of foreign aid on GDP, along with the parameter of

the multiplier effect. Economic growth is the sustained increase in a country's productive capacity, usually measured by the real growth rate of Gross Domestic Product (GDP). Within the framework of the Solow-Swan Growth Model (1956), growth is driven by increases in labor, capital accumulation, and technological progress. However, in the context of developing nations, growth is often constrained by a "savings-investment gap," where domestic resources are insufficient to fund the capital necessary for industrialization (Chenery & Strout, 1966). Foreign aid is intended to fill this gap, providing the "big push" required to move an economy from a low-level equilibrium trap to a self-sustaining growth path in the world (Murphy, Shleifer, & Vishny, 1989).

1.2 Problem Statement

Although Afghanistan has received significant foreign assistance for over 30 years, the effects of foreign aid on economic growth in Afghanistan are still poorly understood. Most existing research is based on total amounts of aid or bilateral aid, while taking little account of the shifting emphasis of multilateral agencies and the different impacts of the various types of aid. In the wake of the 2001 intervention, Afghanistan has relied heavily on external financial resources — foreign aid has amounted to more than 40% of Afghanistan's GDP and funded around 75% of public spending from 2002 to 2021 (World Bank, 2022). Therefore, it is important to consider the composition of aid as well as the overall amount of aid flows.

The research on Afghanistan's aid experience also suffered from a narrow scope, which centered on the post-2001 reconstruction, excluding the evolution of aid from 1990 to 2023. Lessons from critical stages, such as the low-aid phase prior to 2001, high inflows between 2009 and 2012, foreign troop withdrawal and the shift to humanitarian support after 2021, have not been examined together in a longitudinal analysis. This gap makes it hard to trace the impact that key political and economic changes had on the size and functions of foreign assistance.

International organisations like WFP and UNFPA are still supplying significant humanitarian aid, and while this influx of aid has sometimes resulted in sustainable economic development, it hasn't always. Poor governance and political volatility, corruption, and institutional barriers have curtailed the impact of aid and the

progress of improving standards of living. Meanwhile, there has been little research that considers aid flows in relation to other economic indicators, like GDP per capita. Although income increased considerably in Afghanistan from 2002 to 2012, but stagnated and even declined since aid was cut, it is not clear how much those developments were related to the aid dependency of the country.

Another important limitation in the literature is the tendency to treat foreign aid as a homogeneous variable. Theoretical and empirical studies suggest that humanitarian, social, and productive aid influence economic growth through different mechanisms and may generate distinct short-run and long-run effects. Afghanistan's transition from development-oriented assistance in the 2000s to predominantly humanitarian aid after 2021 provides a unique context for examining these heterogeneous impacts, yet evidence remains scarce.

A second key reason for this disaggregated research on UN foreign aid is that each of the United Nations' agencies has a particular institutional mandate and development goal. While the UNDP provides support for the governance and institutional development efforts, UNICEF is responsible for child protection, education and health services, UNFPA works on reproductive health and population-related programs, and WFP devotes the majority of its focus to food security and emergency food assistance. These agencies have varying aims of development and sources of finance, so their impacts on economic development will not be the same. It is important, therefore, to examine foreign aid to the UN more closely and decompose it into its different types, if there are any meaningful distinctions.

Although previous studies have explored the relationship between foreign aid and economic growth, their findings remain inconclusive and generally rely on aggregate Official Development Assistance (ODA) measures (Ahmadi, 2025; Arsalan, 2019; Galiani et al., 2017; Hamkar, 2024). To address these gaps, this study investigates the patterns and evolution of foreign aid flows in Afghanistan and examines the aggregate as well as heterogeneous short-run and long-run effects of disaggregated aid on economic growth from 1990 to 2023 using the ARDL approach. The analysis also incorporates control variables such as foreign direct investment (FDI), exports, and COVID-19 to improve the robustness of the results.

The literature on Afghanistan has mostly examined the overall impact of foreign assistance and the reconstruction of the country following the September 11, 2001 attacks; there is little evidence that examines how various types of foreign assistance affect economic growth over time. Furthermore, the differentiated short and long-run effects of foreign aid disaggregated by components have not been systematically studied in the same framework for 1990-2023. To bridge these conceptual, empirical, methodological and contextual gaps, this study aims to examine the time path of aid flows and differential impact of aid composition on Afghanistan's economic growth by applying the ARDL approach.

1.3 Research Questions

1. What were the trends in disaggregated UN foreign aid flows in Afghanistan from 1990 to 2023, and what do those changes suggest for economic growth?
2. What is the long-run relationship between disaggregated United Nations aid from UNDP, UNICEF, UNFPA, and WFP and GDP per capita in Afghanistan during the period 1990–2023?
3. Do different types of UN aid exhibit heterogeneous short-run effects on GDP per capita?

1.4 Research Objectives

1. To examine the main trends in aid flows from UNDP, UNICEF, UNFPA, and WFP to Afghanistan during 1990-2023.
2. To investigate the long-run relationship between disaggregated UN aid and GDP per capita in Afghanistan.
3. To examine the different types of UN aid that exhibit heterogeneous short-run effects on GDP per capita.

1.5 Research Hypotheses

1. H1: The short-run effects of aid differ across UNDP, UNICEF, UNFPA, and WFP.
2. H2: Disaggregated aid from UN agencies has a statistically significant long-run relationship with GDP per capita in Afghanistan.

3. H3: Humanitarian-oriented aid exhibits stronger short-run effects than long-run effects.

1.6 Significance of the Study

This research provides a series of contributions to developmental analysts, which are essential and have practical implications for policymakers, government, regulators, stakeholders, donors, foreign advocates, civil society, and shareholders. The findings of this study will also assist international organizations such as the WFP, UNDP, UNICEF, World Bank, and UNFPA when implementing country-specific sustainability policies for developing and underdeveloped nations. For scholars, the study will serve as a framework that could be repeated for nations and continents with similar foreign aid differentials. Some of the most important contributions of this study are as follows:

1. **Academic Significance:** This study has an important academic impact by contributing to the existing body of knowledge on the effects of disaggregated foreign aid on economic growth. The study will extend the literature by providing evidence on the pattern and evolution of foreign aid flows to Afghanistan over the period 1990–2023, particularly across major UN agencies, such as UNDP, UNICEF, UNFPA, and WFP.
2. **Specific Analysis of Afghanistan as a Country:** This research provides new evidence on the impact that foreign aid had on the economic growth of Afghanistan, as measured by GDP per capita. This is important, as it will inform policymakers, international organizations, governments, and stakeholders about whether the country should embrace donors from major UN agencies or not.
3. **Empirical Investment in the Economies of Low- and Middle-Income Nations:** The research provides strong empirical evidence to the literature on low- and middle-income economies by examining the sensitivity of growth to heterogeneous aid arrangements at distinct levels of development. This research will enable us to understand whether accepting foreign aid in a country is essential for its people living in that country or whether the foreign aid fund

should be used to develop industrial innovation that will have a long-term effect on the nation.

4. **Relevancy of the Policy to Sustainable Development Goals (SDGs):** This study is closely associated with SDG 8 (Decent Work and Economic Growth) and SDG 17 (Partnerships for the Goals) of the 2030 Agenda of the United Nations. Through disaggregated aid, the research will discover how individual financial flows lead to realization of health and education goals (SDGs 3 and 4), which are the basis of sustainable productivity. It will justify the necessity of the Domestic Resource Mobilization, as emphasized in the Addis Ababa Action Agenda, demonstrating how technical assistance aid can enhance the tax administration and institutional strength. The results will indicate that aid can only work best when used as a catalyst for sustainable internal development, and not as a permanent alternative to domestic savings.
5. **Policy Implication to Economic Growth:** This research provides empirical evidence demonstrating that aid should not be viewed by nations as a windfall in their growth strategies, but rather as a tool to be incorporated in their long-term industrial policy. It cautions that aid ought not to be over-dependent on consumption and instead promotes policies which will move the foreign capital to high-multiplier sectors such as technology and renewable energy. This will help foster a change in national planning whereby it is no longer about a short-term relief-centered approach but rather a structural diversification and export-oriented growth.

1.7 Research Outline

This argument is organized in the following way. Chapter One contains the introduction, background, problem statement, research questions, objectives, hypotheses, and the significance of the study. Chapter Two presents the literature review, theoretical background, conceptual framework, empirical research. Chapter Three lays out the research design of the study, the data utilized, measurement of the variables, model, and research techniques and diagnostics testing. The empirical discussion and research results are shown in Chapter Four. Finally, Chapter Five presents the conclusion, recommendation, and policy implications of the study.

CHAPTER II

LITERATURE REVIEW

To address the background and problem statement described in Chapter One, it is important to place this study in the general theoretical and empirical perspective. The existing literature on the link between foreign aid and economic growth has mostly focused on overall analyses and has succeeded little in explaining how the various types of aid affect the economic outcome. This chapter presents a thorough theoretical literature review and empirical study on the link between foreign aid and economic growth. The chapter critically analyses the literature available and identifies major gaps in the literature. Moreover, it suggests a solid case for disaggregated foreign aid as an important variable in the study of economic growth and for a more sophisticated view on the effectiveness of foreign aid. Based on this review, a theoretical and conceptual framework is drawn and used as guidance in conducting the study. This is the framework used in the research and would give a direction for the empirical analysis, which is provided in the following chapters.

2.1 Theoretical Framework

The relationship between foreign aid and economic growth has been extensively examined in the development economics literature. This relationship can be analyzed through several theoretical perspectives, including the Two-Gap Model and the Financing Growth framework, Endogenous Growth Theory and Human Capital Theory, Aid Dependency Theory, and Dutch Disease Theory. Based on these theoretical perspectives, one can make expectations on the pattern and flow of foreign aid to Afghanistan, the overall foreign aid influence on the economic growth in Afghanistan, and also how various forms of foreign aid can have heterogeneous short-run and long-run impacts on the economic performance. These theoretical considerations provide the foundation for the empirical analyses presented in the subsequent chapters and guide the interpretation of the estimated effects of disaggregated foreign aid on Afghanistan's economic growth.

2.1.1 Two-Gap Model and Financing Growth

The basic theoretical underpinning of foreign aid is the two-gap model prepared by Chenery and Strout (1966), which states that there are two basic constraints to development in developing countries, namely, a gap in savings and a gap in foreign exchange. What has been the pattern and evolution of foreign aid flows to a country when domestic savings are not enough to finance the level of investment that is needed, given desired economic growth? The foreign exchange gap is created when countries are unable to earn sufficient export earnings to meet the critical needs of imports of capital goods, technology, and intermediate goods that are required for production and development (Tanveer et al., 2019; Hasib, 2020). The basic concept of foreign aid: foreign aid forms under this framework a substitute for lacking domestic resources, to fill in the gaps, thus making available to the countries a higher rate of investment and faster growth. The model implies a positive relationship between flows of aid and growth, especially in economies which are capital-scarce and have chronically low domestic savings rates. Afghanistan has an extremely low domestic savings rate along with low export capacity; therefore, it fits the profile of a country in which the two-gap model would predict significant positive effects from foreign aid (Nasery, 2014). However, there are criticisms of the two-gap model, including the mechanical nature of the model, as well as the assumption that aid automatically translates into productive investment.

In conclusion, the Two-Gap Model provides a useful analytical framework for explaining the rationale behind foreign aid and its potential contribution to economic development by addressing savings and foreign exchange constraints in developing countries (Chenery & Strout, 1966). But it has limited explanatory power as it suggests that the lack of investment capital is the main constraint to growth, and largely ignores the role that institutional quality, governance, political stability, or absorptive capacity play in determining the effectiveness of aid (Burnside & Dollar, 2000; Easterly, 2003). Therefore, a more complete and evidence-based analytical framework is needed to assess the degree to which foreign aid actually contributes to long-term sustainable economic growth, especially in fragile and aid-dependent states like Afghanistan (Collier & Dollar, 2002; Moyo, 2009).

In view of these, the Two-Gap Model provides a handy way of analyzing what possible role foreign aid or UN agencies can play in reducing the structural constraints

of foreign exchange shortages and savings shortages. However, the model may be an oversimplification of the complicated issues of aid effectiveness. For Afghanistan, and other countries, the developmental effect of foreign aid is not only influenced by the amount of aid received, but by the quality of the institutions, governance, policy, and the efficiency of aid resource allocation and utilization (Acemoglu & Robinson, 2012; Burnside & Dollar, 2000). Moreover, empirically, aid is more likely to foster durable development if it helps to construct institutions and invest in productive appropriation (Clemens et al., 2012). Hence, a more thorough empirical study is needed to study if foreign aid is conducive to sustainable economic growth or whether it only serves to alleviate the economic pressures in the short term without having any long-term development impact.

2.1.2 Endogenous Growth Theory and Human Capital

Economic growth theory is a set of factors that are responsible for the sustained rise in the productive capacity and income of a country over time. The classic and neoclassical models of economic growth focus on the increase of capital, labor and technology as the key factors of economic growth. The external resources, such as foreign aid, can complement the constraints of these developing economies, where domestic savings and investment can be inadequate, and help to improve economic performance. On the basis of these building blocks, endogenous growth theory also suggests that long-term economic growth can be attributed to investment in human capital, innovation, knowledge, and institutional development, which highlights its importance for analyzing the contribution of disaggregated UN foreign aid to Afghanistan's economic growth.

Endogenous growth theory, introduced by Romer (1986) and Lucas (1988) shifts the emphasis of accumulation of physical capital to the accumulation of human capital, knowledge and technology as a growth stimulus over the long term, and also the influence of foreign aid on the growth of the economy. In contrast with the neoclassical models, which imply the declining returns to capital, the endogenous growth theory gives specific attention to the contribution of investments in education, health, and innovation to produce increasing returns and self-consistent growth patterns. In this perspective, UN foreign aid that invests through human development

(UNICEF), human health (UNFPA) and capacity-building (UNDP) could have far-reaching and enduring ramifications on the growth of the economy by boosting labor productivity, promoting innovation and enhancing the capacity of the institution. The empirical analysis revealed by Williamson (2008) demonstrates a particular role of foreign aid to the health sector in the development of human well-being with a long-term reduction of economic performance. This theoretical prism applies to the perception of the potential directional effects of disaggregated aid.

Overall, endogenous growth theory provides a relevant analytical framework for understanding that the effectiveness of foreign aid is determined not only by the amount of financial resources provided, but also by its ability to enhance human capital, stimulate innovation, and strengthen institutions. Consequently, aid that is oriented toward human development and institutional capacity building is more likely to generate sustainable economic growth than aid that focuses solely on the accumulation of physical capital. However, the success of such a strategy ultimately depends on the recipient country's absorptive capacity as well as the degree of alignment between aid programs and national development priorities (Romer, 1986; Lucas, 1988; Williamson, 2008).

Drawing on this perspective, endogenous growth theory holds that foreign aid is effective in the end if it can improve human capital and promote innovation and institution-building, but not simply add on to physical investment. Hence, aid that is dispersed across the three sectors of education, health and institutional development, are more likely to produce lasting and multiplicative economic growth. The benefits of these long-term aspirations, though, will only be realised if recipient countries can absorb the aid and if donors consider it in relation to the recipient country's development priorities, which means that a more focused and impact-driven approach to foreign assistance is required.

2.1.3 Theory of Aid Institutional Quality and Effectiveness

A more recent stream of theory stresses the crucial importance of the quality of institutions in determining how effective aid is, that is, whether different types of foreign aid exert heterogeneous short-run and long-run effects on economic growth. This view, expressed by Burnside & Dollar (2000) and more recently by other authors,

is that foreign aid is best at promoting growth in countries with sound macroeconomic policies, effective governance and low levels of corruption as well as good public administration. The institutional quality hypothesis is that in weak institutional environments, in which there is corruption, poor governance, weak rule of law, and limited state capacity, foreign aid can be diverted, misallocated, or appropriated by elites, with little or even negative growth effects as a result (Andaish & Assadi, 2024). It is clear from the corruption analysis of Afghanistan that the lack of development of good governance institutions and the high levels of corruption have undermined the effectiveness of the aid delivered and many areas of development aid have not resulted in productive outcomes or made it to the intended beneficiaries. Bizhan (2018), in an analysis in the context of state-building in Afghanistan, argues critically about the effectiveness of foreign aid, as it depends critically on whether or not it strengthens or bypasses domestic institutions. Parallel aid — aid that goes not through government channels — provides immediate benefits, but over time it undermines the capacity of the state and therefore long-term development (Bizhan, 2018).

Finally, the excerpt emphasizes that the effectiveness of foreign aid is first and foremost dependent on the quality of institutions. For aid to be effective in achieving economic growth, there must be transparent governance, effective public institutions, accountability mechanisms and strong state capacity as the central implication. Sustainable development is thus unlikely to be achievable for countries like Afghanistan without ongoing foreign assistance, and also without significant institutional strengthening and governance reforms (Burnside & Dollar, 2000; Acemoglu & Robinson, 2012).

In view of such arguments, the institutional quality view emphasizes that foreign aid does not always have a positive or negative effect on the recipient country, it depends on the governance context that it works in. Whether the national institutions are strengthened, or parallel ones are created, is a central question in assessing the effectiveness of aid in Afghanistan, where weaknesses of national institutions and corruption are important problems. Therefore, ensuring that aid is aligned with institutional development, accountability, and governance reforms is essential for transforming foreign assistance into meaningful and sustainable economic growth (Bak, 2019; Bizhan, 2018).

2.1.4 Aid Dependency and Dutch Disease Theory

A counter-theoretical view speaks of the dangers of large flows of aid, which may be detrimental to transition, especially where there is a long-term dependency. The "Dutch disease" hypothesis, which was initially developed to explain the economic effects of booms related to natural resources, has been applied to the context of foreign aid to explain how large inflows of such aid can also be associated with an appreciation of the real exchange rate, leading to a decline in the competitiveness of exports and the crowding out of tradable sectors (Rajan, 2011). Additionally, aid dependency theory argues that persistent aid dependency can lead to moral hazard issues, low incentives for domestic revenue mobilization, corruption and distortion of labor markets and the development of a "culture of dependency," which erodes self-reliance and entrepreneurship (Security, 2020). Security (2020) argues that in the present era of intense competition for great power, foreign aid needs to undergo a conceptual reconciliation that would prevent dependencies from being sired, leaving the recipient countries vulnerable when the aid flow dries up.

Overall, this excerpt emphasizes that although foreign aid is often viewed as a development instrument, in certain circumstances it can create economic distortions, weaken domestic institutions, and generate harmful dependency. Therefore, the effectiveness of aid does not depend solely on the magnitude of financial inflows, but also on policy design, the recipient country's economic structure, and its ability to maintain fiscal independence and economic competitiveness (Rajan & Subramanian, 2011; Security, 2020).

Given these concerns, this view warns that over-dependence on foreign assistance can create undesirable macroeconomic distortions and can undermine the foundation of long-term development. Extended aid dependency can hurt the competitiveness of exports, result in lack of policy discipline at the domestic level, and even weaken incentives for self-reliance. Aid then needs to be handled strategically by the recipient countries: to make it more productive, build up their own capacities to generate revenue, and reduce their dependence on external aid, so that foreign aid can be a good force for development rather than a force against economic transformation.

2.2 Conceptual Framework

This section presents the conceptual framework on which empirical research on the disaggregated foreign aid and economic growth in Afghanistan is being fueled, based on the discussed theoretical foundations as indicated above. The conceptual framework views a combination of multiple theoretical points of view to a synthesized model to enumerate the formulated relationships concerning agency-specific aid flows, control variables and the outcomes of economic growth.

2.2.1 Economic Growth

Economic growth, which is proxied by GDP per capita, is the main outcome of interest, in constant US dollars. This indicator reflects the level of economic output per capita and is the most commonly used indicator of the development of the economy and people's living standards. While there is a well-known problem with GDP per capita, it does not abstract any ideas on income distribution, non-market activities, and broader welfare dimensions (UNDP, 2020). It is a common metric in aid growth research and offers comparability with available literature (Farahmand, 2021; Hamdard et al., 2023). The use of GDP per capita as opposed to GDP is not accidental, because the per capita measure takes population growth into account and is a better indicator of changes in individual welfare and living standards. In the Afghan context, given the larger increase in the size of the Afghan population over the period covered by this study, GDP per capita is a more meaningful measure of whether or not foreign aid has helped improve the economic lot for the average Afghan citizen.

One of the roles of foreign aid in developing countries is to kickstart economic development by boosting domestic savings and investment. Still, the quality of institutions and governance is a key factor in the effectiveness of aid. Externally provided resources can go a long way in fostering long-term economic growth in countries with inclusive political and economic institutions but can be inefficiently allocated and become increasingly harmful in countries with weak institutions according to Acemoglu & Robinson (2012). But Easterly (2006) argues that foreign aid is not enough to stimulate sustainable economic growth without institutional change, incentives, and good governance. Therefore, the relationship between foreign

aid and economic growth remains an empirical issue that depends on country-specific economic structures, governance quality, and policy implementation.

2.2.2 Disaggregated Foreign Aid

Foreign aid assistance is centered around the patterns and evolution of foreign aid, aggregate growth effects of foreign aid, and heterogeneous short-run and long-run effects. The conceptual pathway from economic development to economic growth through foreign aid runs through: improved public administration and service delivery, improved policy environments that are attractive to investors, strengthened rule of law and reduced transaction costs, and capacity-building to facilitate better resource allocation. UN agencies cover issues of reproductive health and maternal mortality, family planning and gender equality. The linking of growth is through: increased health of the population and decreased mortality, demographic transitions that change dependency ratios, improved female labor force participation and female empowerment, and better human capital formation through better maternal and child health. The mechanism of growth is through human capital accumulation (education, improvement in health), reduced mortality and morbidity in children, improved cognitive advancement and later productivity, and long-term increases in the quality of the labor force. WFP's main source of work is emergency food assistance and humanitarian aid. The linkage for growth is not so direct: it avoids starvation and humanitarian disasters, helps smooth consumption out in times of crisis, may have very little direct productive investment impacts, and could lead to dependency if continued over the long run.

2.2.3 Economic Performance and Open Economy Indicators and Pandemic Shock (Export, FDI, and COVID-19)

In order to isolate the effects of disaggregated aid on economic growth, the study includes a number of control variables such as foreign direct investment (FDI), exports, and a COVID-19 dummy capturing the 2020–2023 pandemic shock. FDI brings capital, technology, managerial expertise and market access. In growth theory, FDI complements domestic investment and can generate spillover effects that boost productivity (Borensztein et al., 1998). However, the country's weak security environment and poor business environment have historically constrained FDI inflows

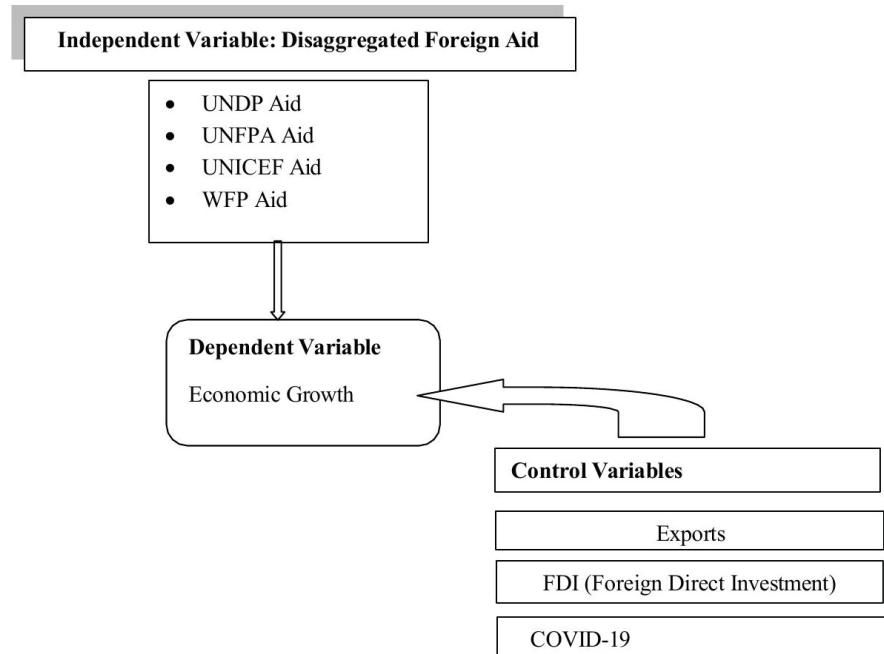
into Afghanistan. Export performance indicates the international competitiveness, generates foreign exchange and creates jobs. Export-led growth theory lays emphasis on integration into the global markets, driving productivity improvements through competition and learning-by-doing (Balassa, 1978). Afghanistan's export sector is underdeveloped, with agricultural products and informal trade being the largest parts. The COVID-19 pandemic was an economic shock of unprecedented scale in the global economy that impacted the labor market highly, put a strain on public health systems, and limited human mobility (Anser et al., 2020). Containment measures in relation to the pandemic have transformed the productivity of the economy and consumer behavior to a large degree since lockdowns and movement restrictions limited economic activity and demand was suppressed. Moreover, as Shah (2021) presents, the pandemic caused large-scale losses in world trade flows, foreign direct investment, and general economic performance, which proves the increased susceptibility of open economies to extensive external shocks.

Overall, this analysis shows that the impact of foreign aid on economic growth cannot be separated from other factors such as FDI, exports, human capital, and external shocks such as COVID-19. FDI and exports play an important role in promoting growth through the transfer of capital, technology, and improved competitiveness; however, their effectiveness in Afghanistan remains limited due to security conditions and a weak economic structure. Meanwhile, the COVID-19 pandemic highlights the high vulnerability of the economy to external shocks, which significantly reduced global economic activity (Asamoah et al., 2019; Shah, 2021; Anser et al., 2020).

Below is a diagram presenting the independent variable and the control variables in explaining their overall impact on economic growth in Afghanistan.

2.2.4 Conceptual Framework

Figure 2.1. Conceptual Framework



Source: Author's Computation

2.3 Previous Studies

2.3.1 Disaggregated Foreign Aid (Trends and Patterns, Aggregate Growth Effects, and Heterogeneous Short-Run and Long-Run Effects) and Economic Growth

The discussion of the disaggregation of foreign aid and economic growth in this study is centered around the patterns and evolutions of foreign aid, aggregate growth effects of foreign aid, and heterogeneous short-run and long-run effects of the research questions. The empirical studies on foreign aid and economic growth have yielded mixed and contentious results due to variations in data, methodology, time period and country samples. Early empirical research tended to conclude that there were positive relationships between aid and growth. Hansen and Tarp (2001) performed a meta-analysis of studies on the impact of aid on growth and concluded that there is a positive effect of aid on growth, though this effect depends on country characteristics and aid modalities. Similarly, Clemens et al. (2012) differentiated

different types of aid, and they found that "early-impact" aid (aiding productive sectors) has significant positive growth effects, but humanitarian and long-term development aid show weaker or delayed effects. Burnside & Dollar's (2000) influential study provided a strong argument that aid plays a role in promoting growth among countries with good policies and institutions. Their results were the subject of a firestorm of debate and various attempts at replication with varying results. Some research supported the importance of policy environments (Collier & Dollar, 2002), while other research supported that aid effectiveness is not dependent on policy quality (Easterly et al., 2004). A lot of research questions or rejects the aid-growth relationship. Raghuram (2008) did not find a robust relationship between aid and growth across different specifications and data sets. They postulated that one of the reasons for the failure of aid to promote growth could be the Dutch disease effect, where the aid inflows lead to appreciation of real exchange rates and detriment to export competitiveness. Easterly (2006) proposed that aid has not led to growth owing to the reasons that it flows through weak institutions, created dependency, and lacks quality of accountability mechanisms.

According to the literature regarding the trend and changes in the flow of foreign aid, aid flow is not stable but it varies or changes in accordance with the geopolitical interests, conflicts, humanitarian crisis, and development paradigm. Initial research determined that the allocation of aid is not only based on the needs of the recipient but also depending on the strategic and political interests of the donor. This is the reason why most of the weak and war-torn states have been through highs and lows in aid instead of chronic long-term funding. For instance, Arndt et al. (2015) used sophisticated econometric techniques and identified some positive average effects of aid pattern on growth, with wide differences between countries and time periods. Galiani et al. (2017) made use of a regression discontinuity research design utilizing the World Bank lending thresholds and found the evolution of foreign aid has positive short-term growth effects that fade with time. Farahmand (2021) examined the effect of economic growth and foreign aid from 1960-2018 by using cointegration and Granger causality tests and found a significant, positive long-run relationship between Official Development Assistance (ODA) and GDP in both directions, i.e., that aid facilitates growth and growth attracts more aid. Hamdard et al. (2023) studied the

effect of foreign aid pattern on economic growth by analyzing from 2002-2021 using multiple regression analysis. They found that foreign aid has a significant positive impact on GDP growth, with the effect of each 1% increase in aid equal to a 0.42% increase in GDP. The study also found FDI and government expenditure to be important determinants of growth.

Moreover, one of the most widely discussed issues in development economics is the relationship between foreign aid and economic growth. The early theories, including the two-gap model of Chenery and Strout (1966), assume that aid is used to close savings and foreign exchange gaps, which subsequently stimulate capital accumulation and growth. Previous research on foreign aid and economic growth is nuanced. For example, Ahmadi (2023) made a quantitative study in terms of the impact of foreign aid on the economic growth in the period from 1960-2020, and found positive effects of aid on GDP, which suggests that economic growth does not necessarily imply increases in other human development measures. Furthermore, Hamkar (2024) examined the impact of foreign aid on economic development using time-series data and concluded that although aid has some positive economic development impact in the short run, the long-term impact is not certain and depends on the utilization of aid and whether it reaches into productive sectors of economic development or consumption. Arsalan (2019) examined foreign aid and economic development in Afghanistan, and the study found weak or insignificant relations between per capita aid and per capita income growth. The study suggested that aid effectiveness is compromised by corruption, lack of good governance, security challenges and fragmentation of aid from multiple donors and projects. Suhail (2019) examined the social and economic development programs of USAID and concluded that the results are mixed, with some programs providing tangible benefits and others encountering implementation challenges related to security constraints and weak local capacity.

Moreover, there is an ever-increasing array of literature that presents incongruent results on the equal treatment of aid and underscores various types of aid being channeled through different growth avenues, and little is known about the heterogeneous short-run and long-run effects. An example is Dreher et al. (2008), who contend that humanitarian aid is mainly associated with consumption smoothness,

whereas infrastructure and productive support have an impact on investment and growth in the long term. This ideal difference is the basis of more modern empirical developments. Provided by Dietrich and Wright (2015), the concept of early-impact aid and late-impact aid appears, revealing that budget assistance and infrastructure assistance influence development in the short run, whereas education and institutional assistance have long-term effects. Equally, in a similar study, Bak (2019) establishes that aid to productive sectors has significant long-term growth effects in comparison to social or emergency assistance. Sector-disaggregated analysis makes this heterogeneity even stronger. Natsios (2020) illustrates that development-oriented aid has a positive relationship with the increase in GDP per capita in the long run, whereas geopolitical aid does not. Morgan (2023) reveals that the complementary factor of production aid facilitates growth, whereas consumption sector aid is less powerful. Aidt (2021) discovers that technical cooperation is able to impact growth after extensive delays, which also puts emphasis on short-run and long-run dynamics. As demonstrated by Natsios (2020), the macroeconomic effects of aid shocks are temporary and dissipate unless accompanied by domestic investment. Karras (2006) discovers that aid has short-run growth improvements, whereas its effects on growth in the long-term hinge on structural transformation. Heterogeneity is further extended in weak and warring countries. Bruckner (2013) gives a result that emergency assistance reduces output volatility, but long-term growth relies on development-related flows. Thus, this literature makes a very good case for the necessity of investigating whether other variations of aid have heterogeneous short-run and long-run impacts on economic growth, especially in fragile settings.

The Afghanistan evaluation report has assessed a number of different donor interventions and identified continuing challenges of aid coordination, sustainability and alignment with local priorities. Research on infrastructure aid in Afghanistan (International Crisis Group, 2011) showed that aid financing on roads, energy and telecommunications has produced positive economic returns, but it was shown that the topic of sustainability is problematic in light of lack of maintenance funding and the continuing damage caused by conflict. Studies looking at the role of aid in generating employment in Afghanistan found that while aid-financed projects generate a fair amount of short-term employment, there is limited sustainable job creation, with

projects often reliant on temporary job creation and external contractors being hired. Notably, the lack of disaggregation of foreign aid by agency or modality is lacking in any study of Afghanistan. All reviewed studies utilize total ODA, bilateral aid, or at most, make a distinction between grants and loans.

Foreign aid and economic growth literature can provide empirical and theoretical insights that can be summarized in a few contrasting, yet complementary perspectives, which can be systematically compared on five key dimensions: overall impact, role of institutions, aid composition, time horizon, and country context. In terms of the overall relationship between aid and growth, first, early research by Hansen and Tarp (2001) and Clemens et al. (2012) mostly points towards a positive effect of foreign aid, especially if such aid is targeted to productive sectors. Conversely, others such as Raghuram (2008) and Easterly (2006) challenge this connection and have discovered either weak or insignificant relationships, sometimes arguing that the failure to find such a relationship may have to do with macroeconomic distortions (e.g., Dutch disease) and poor institutional environments. This suggests a deep cleave dividing the optimistic and sceptical attitudes toward the effectiveness of aid.

Second, in terms of the importance of institutions and policy environment, Burnside & Dollar (2000) say that aid can be effective only in situations where policies are good, and institutions are strong, an opinion seconded by Collier and Dollar (2002). This is disputed by Easterly et al. (2004), however, who conclude that the effectiveness of aid is not only dependent upon policy quality. The debate points to the fact that although institutions matter, there is a contested view on how institutions function and will be context-dependent, particularly in fragile States such as Afghanistan, where governance issues are more salient.

Third, with respect to the composition of aid and disaggregation, there is a greater consensus in more contemporary work. Dreher et al. (2008), Dietrich and Wright (2015) and Natsios (2020) have found that various forms of aid are not all alike. Productive infrastructure-related aid generally creates longer-term or growth effects, while humanitarian consumption-oriented aid is more likely to have short-term or stabilizing effects. This indicates that there may be key differences that are hidden in the aggregate aid analysis that supports disaggregated approaches.

Fourth, with regard to the short- versus long-run impacts, literature also reveals nuanced results. Research has shown that aid can have positive short-term growth effects which fade over time, as seen in Galiani et al. (2017) and Karras (2006), and have been found to have significant long-term effects, as in Farahmand (2021) and Bak (2019). This comparison highlights the importance of ensuring the sectoral distribution and timelines of aid are key factors to its effectiveness.

Fifth, concerning aid volatility and geopolitical considerations, it is generally accepted in the literature that aid flows are frequently unstable and are driven by factors of donor interests instead of recipient needs. This makes for instability in financing, especially in countries facing conflict. Both Arndt et al. (2015) and Galiani et al. (2017) have shown that although a positive effect of aid can be observed, its effect is vastly different across countries and over time.

Lastly, with respect to Afghanistan specifically, the evidence is more pessimistic or mixed. Studies such as Hamdard et al. (2023) and Farahmand (2021) suggest that there is a positive relationship between aid and growth; however, several studies (Arsalan, 2019; Suhail, 2019) have pointed out that such effects may be limited because of corruption, poor governance, security issues, and fragmented aid deliveries. Also, a failure in disaggregated analysis in Afghanistan-focused studies is a notable research gap, and most depend on aggregated measures of aid.

Overall, the comparative analysis suggests that the impact of foreign aid on economic growth is not uniform but highly conditional, depending on institutional quality, aid composition, time horizon, and country-specific factors. While some consensus emerges around the importance of disaggregated aid and institutional context, significant disagreements persist, justifying the need for more nuanced and country-specific empirical investigations — particularly in fragile states such as Afghanistan.

In line with the literature, global evidence on the relationships between foreign aid and economic growth is mixed with conflicting evidence. Therefore, it is essential to examine the impact of disaggregated foreign aid on economic growth in Afghanistan, in order to close the existing gap in previous research. In this vein, we believe that foreign aid will have an impact on economic growth.

2.3.2 Previous Studies on the Control Variables

2.3.2.1 Exports

Trade and export variables are among the most commonly examined controls in growth studies in Afghanistan, with work done using VAR/ARDL/VECM frameworks and causality tests in different time spans of samples to determine openness-growth relationships. Empirical work covers aggregated measures for trade openness and disaggregated analyses in the form of export diversification and also export categories. Hemat (2023) examines the causal relations between trade openness and growth for the case of Afghanistan, and brings in the fact that recent growth in exports including those driven by agricultural exports such as dry and fresh fruits coincided with changing dynamics of growth; their use of causal diagnostics focuses on the question of whether there was causality from growth expansion to export expansion or from the reverse. The study employs time series causality methods that delve into examining directionality and demonstrate that growth in some export categories preceded periods of growth, but also discuss structural limitations to the scalability of exports (Hemat & Ahmad, 2023). Nassir Ul Haq Wani's study on openness (2019) argues for the case of a robust positive relationship for trade growth for Afghanistan based on empirical estimations taken into account the unusually high trade to income ratio and declining export survivability of Afghanistan during recent years. Wani draws attention to the fact that openness to trade is important for growth, but that the base of exports as well as non-tariff constraints constrain the growth dividend from openness, particularly in view of supply-side constraints in production and logistics (Wani, 2019). These sorts of structural caveats make it starkly different from why openness coefficients prior to a time in Afghanistan may make it appear small (or small in volatility) in the cross-country panel.

Several studies assess export composition rather than openness per se. Wani and Yama find that export diversification relates to faster growth in Afghanistan and that the effects of diversification are particularly relevant for low-income product baskets using panel and cross-sectional comparisons to draw lessons for Afghanistan's narrow export base (Wani & Yama, 2021). Karimi, Anwar, and Ali's time-series approach, likewise, takes imports and exports as important determinant factors in growth regressions for Afghanistan and finds that export performance has negative

dynamics on GDP dynamics on the intervals studied (Harahap et al., 2019). These studies collectively demonstrate that the volume and the form of exports affect growth prospects in Afghanistan. Empirical contradictions occur when different methods or periods of sample are used. For instance, Thaker (2024) finds in their ARDL framework over the period 1990-2019 that trade openness was not significant in the long run but had a significant negative short-run impact on growth, indicating the role that estimator choice and sample composition play in reversing the signs and significance of coefficients of trade openness. Such divergence emphasizes the sensitivity to model specification, either in terms of its ratio to GDP or the rate of trade growth and whether the short-run and long-run dynamics are estimated separately or not (Suleman et al., 2024).

Gaps continue in the literature on trade growth in Afghanistan: most studies are founded on aggregate national accounts where there is very little sectoral variation, few of them employ a firm or product-level panel design to test the micro-mechanism, and there does not exist a causal identification so that it can isolate the supply-side constraints, infrastructure bottlenecks or security shocks as a mediator of the openness effects. Consequently, while the preponderance of time-series and cointegration studies find a relationship between exports or openness and growth, the literature reports heterogeneity in the size and direction that depends on the composition of exports, institutional constraints, and econometric approach (Hemat & Ahmad, 2023; Suleman et al., 2024; Wani, 2019).

Based on these results, the link between trade, exports and economic growth in Afghanistan is not straightforward nor highly predictable. It is well known that trade openness and export performance have a significant influence on growth, but the effect of these depends on export composition, structural factors, and methods adopted in empirical studies. Given the conflicting findings among studies, future studies should be more nuanced and disaggregated and consider sectoral conditions, institutional influences and supply-side constraints. Hence, a more detailed and scientifically sound study is needed to fully grasp how the current trade and export system can be used to effectively support sustainable economic development in Afghanistan.

2.3.2.2 Foreign Direct Investment

One of the most controlled and researched areas of control for the growth of the Afghan economy has been FDI, in which researchers use OLS, ARDL/ECM, VECM, Granger causality, and other time-series methods with some variation in sample size and description (total FDI vs. greenfield investment). Findings are heterogeneous as they show some studies finding positive long-run effect and others negative long-run impacts and/or negative short-run association, and several highlighting context and type of FDI as key moderators. FDI and trade were negatively associated with GDP significantly in the short run, while in the long run, most of the variables, except inflation, had positive and significant impacts on growth (Zohor et al., 2022). Their use of multiple cointegration and VECM techniques highlights different short-run vs long-run dynamics for the association between FDI and GDP for the period 2007-2019. Kakar and Wani (2021) use multiple regression on data from 2005-2016 and find that FDI has a negative impact on economic growth in their specification, which leads to discussion of policy issues on the necessity to stabilize macro variables and attract productive flows of FDI. Similarly, Thaker (2024) applies ARDL on data covering the period 1990-2019 and finds a significant negative long-run effect of FDI on Afghanistan's growth while finding a positive role attributed to domestic investment and labor force, implying that the net effect of FDI can be negative if repatriation and weak linkage effects prevail over others. These consistent negative long-run findings in some of the ARDL/cointegration studies suggest possible dependency effects or measurement issues in aggregate FDI series (Suleman et al., 2024; Zohor et al., 2022).

In contrast, researchers disaggregating the FDI or focusing on greenfield projects find more favorable impacts. Aziz et al. (2023), analyzing greenfield FDI and economic development over 2002-2021 using ARDL/ECM, conclude that greenfield investment and remittances are found to be statistically significant for growth both in the short and long runs, whereas foreign aid is not statistically significant for growth, and point to the kind of FDI being important to growth transmission, namely greenfield FDI versus total FDI or portfolio flows. Wani and Rehman (2017) analyze determinants of FDI (2005-2015) and report that factors like gross fixed capital formation and GDP are positively associated with FDI inflows and thus suggest the

possibility of macro development as an attractive factor for beneficial FDI flows under certain conditions. These studies imply that policy and compositional variation (greenfield investments with local linkages versus extractive or portfolio flows) of FDI is what drives non-homogeneous empirical results (Aziz et al., 2023; Wani & Rehman, 2017).

Scholars have also focused on institutional and political moderators. Shinwari et al. (2023) return to the theme of FDI, natural resources and growth and demonstrate that political stability conditions and resource endowments determine whether or not FDI promotes growth or undermines growth and distributional outcomes in Afghanistan. Hameed et al. (2022) find asymmetric causality between per-capita FDI and per-capita GDP, implying that the response to growth due to FDI can be dependent on the sign and size of the shocks and that feedback effects are present. Together, these research studies reveal that the net impact of FDI is mediated by the type of investor, governance and macroeconomy sequencing (Shinwari et al., 2023). Methodological discrepancies account for some of the disruptions: OLS and simple regressions tend to produce different short-run signs than cointegration/ARDL/VECM long-run estimates; when conducting ARDL studies, it is common to separate out the short- and long-run coefficients, and to observe sometimes opposing signs in the short- and long-run horizons (Zohor & Mirwais, 2022). A remaining empirical gap is that greenfield, brownfield, and extractive FDI in the series were claimed inconsistent breakdowns and sparse microdata on the spillovers of firm-level, as a result that there remains insufficient evidence to declare the uniform sign of the causal physics that different total FDI affects growth without conditioning in type, political stability and absorbing capacity (Aziz et al., 2023; Shinwari et al., 2023).

Given these mixed and sometimes conflicting results, the linkage between FDI and economic growth for Afghanistan cannot be generalized as positive or negative. Rather, its effects are very dependent on the kind of investment, macroeconomic conditions, institutional quality and political stability. Empirical studies have provided evidence that all of these measures of aggregate FDI mask important heterogeneity, especially between greenfield, extractive, and portfolio investments, which convey growth effects in distinct ways. Moreover, methodological variations in each of the studies also help to explain the different findings, particularly in terms of separating

out short- and long-term dynamics. So, a more disaggregated and context-sensitive approach is needed to evaluate the impact of various types of FDI on sustainable economic growth in Afghanistan.

2.3.2.3 COVID-19

New empirical research indicates that COVID-19 has immensely changed the magnitude and pattern of aid. The OECD (2022) reports that more than US\$200 billion of COVID-19-related support was provided by global development finance institutions over the 2020-2022 period, with a significant part of it going to emergency health systems, vaccine delivery, and income support. This influx of health- and relief-oriented aid was coupled with a decline in infrastructure and financing of the development of the private sector. In their opinion, this change in composition will produce asymmetric growth impacts: despite the fact that emergency aid will help minimize the decline in short-run incomes, it does not always offer a long-term growth in productivity (Bashir et al., 2021). In this regard, it is important to know how various types of aid performed during the pandemic to evaluate their varied growth effects. Recent literature also highlights the fact that COVID-19 revealed the significance of aid heterogeneity. Health and humanitarian aid provided quick social benefits, such as low mortality, securing at-risk groups, and continuing to possess fundamentals (Broomandi et al., 2020; Nilashi et al., 2020). On the other hand, support requested for enterprises, digital infrastructure, and job recovery exhibited more prospects of reviving growth in the medium term (Shah, 2021). As Chuan et al. (2022) note, long-run growth effects of emergency assistance are not statistically significant, whereas only investment-oriented assistance shows such effects. Therefore, the situation of the pandemic highlights the need to disaggregate foreign aid in the assessment of its association with economic growth.

In light of these developments, the COVID-19 pandemic has clearly demonstrated that the impact of foreign aid on economic growth is highly dependent on its composition and purpose. While emergency and health-related assistance played a crucial role in mitigating immediate welfare losses and stabilizing vulnerable populations, its contribution to long-term productivity growth appears limited. However, investment, digital infrastructure and recovery of the private sector have greater promise for medium- to long-term economic growth. Hence, the pandemic-era

adds a significant layer of urgency to the disaggregation of foreign aid in empirical analysis with different types of aid having different and time-varying impacts on economic performance.

CHAPTER III

RESEARCH METHODOLOGY

Chapter 2 reviews theory and literature with the aim of answering the research questions and objectives presented in Chapter 1, and has been carried out critically and deeply. The chapter presents a solid rationale for considering why this variable should be included in the analysis and, in addition to summarising the current academic knowledge, the main gaps in the current scholarly knowledge are highlighted, e.g. the lack of attention to donor agencies. This question should be addressed through a proper and continuous methodology frame to peel away the intricate layers and understand how the foreign disaggregates will tamper the economy in Afghanistan. Although the role of foreign aid and economic growth has received significant attention in previous research, there has been little research disaggregating foreign aid and economic growth, and specifically in the case of Afghanistan. Chapter 3 aims to fill this void, by offering a clear and systematic methodological design, which can provide empirical evidence on the impact of disaggregation of foreign aid on economic growth in Afghanistan with a specific consideration of the level of impact donor agencies have made in Afghanistan. Research methodology provides the analytical framework on how to answer the questions of the research and to accomplish the goal of the study.

3.1 Research Design

This study's research type is quantitative with the time series analysis approach. Since the analysis is done based on annual data, it can be seen as short-run as well as long-run dynamics between selected variables. Specifically, the study spans the time period 1990-2023, chosen to provide the long-term dynamics of structural changes in the Afghan economy, including the impact of economic policy regimes, conflict, and external financial inflows. The unit of analysis adopted is the time series of a single country only (Afghanistan). In this way, the development of economic relations in a given country can be analyzed, rather than across countries. In methodological terms, the approach used in this study is the Autoregressive Distributed Lag (ARDL) bounds testing approach. This is appropriate to study the long-run cointegration relations as well as the short-run dynamic adjustment among variables in an integrated empirical

context (Pesaran, Shin, & Smith, 2001). It is especially suited to data that has a series of both different integration orders, $I(0)$ and $I(1)$, and it is often used for research that has a relatively small number of observations per year (Narayan, 2005). From the general perspective, the research design is quantitative, single-country, and time-series-based (1990-2023), and the ARDL bounds testing approach has been adopted to explore the short-term and long-term relationship between variables of interest.

3.2 Data Description

This study uses annual time series from 1990 to 2023, which provides approximately 34 observations. The data set includes various macroeconomic and aid-relevant indicators from international entities like UNDP, UNICEF, UNFPA, and WFP, along with some major economic indicators, such as GDP per capita, FDI, exports, the wealth inequality indicator, and a COVID-19 dummy variable that represents the structural shock of COVID-19. Primary sources are publicly available data from international organisations like UNFPA, UNICEF, UNDP, WFP, etc., that are consistent and internationally comparable in terms of indicators on aid flows, human development and social outcomes. These agencies have established long time series of reporting and monitoring in Afghanistan that contribute to the reliability and continuity of the time series. Global sources of statistical data are used to provide economic indicators (GDP per capita, FDI, exports) and indicators of income or wealth inequality, and the definitions and conventions for their measurement follow international practices.

A COVID-19 dummy variable is created to account for the structural break of the pandemic period. It is assigned a value of 0 for the years before the COVID-19 shock and 1 for the years following the shock that is likely to have had a major impact on both economic activity and aid disbursal. This dummy enables the identification of extraordinary periods (due to the pandemic) and normal periods of the model, which lowers the risk that the estimated relationships are contaminated by these extraordinary shock periods. From a methodological point of view, a number of limitations should be recognized. First, the number of observations per year (around 34) is relatively low, which limits the capacity of econometric analysis of the data if more than one explanatory variable and lag structure are used. Secondly, if there are many variables

grouped under one time series, it might affect the accuracy and efficiency of the parameter estimates of the time series model. Third, due to the inclusion of several institutional and macroeconomic variables, and lagged variables, there is a risk of overfitting in that the model may be a good fit for the sample data, but an inadequate fit for the actual economic relationships in a broader context. Therefore, there are a number of issues that need to be carefully considered, such as the lag length, the theory behind the variable selection, and the use of appropriate diagnostic tests. The necessary steps are needed to guarantee that the empirical results do not vary because of the particular features of the sample.

3.3 Research Approach

In this study, the data collected is of a time series nature, with the observations taken at one-year intervals from 1990 to 2023 ($N = 34$). Macroeconomic and aid-related indicators from various international organisations (UNDP, UNICEF, UNFPA, WFP) are included in the dataset, along with the most important economic variables including gross domestic product (GDP) per capita, foreign direct investment (FDI), exports and a COVID-19 dummy to represent the structural shock of the pandemic period. From the methodological point of view, some restrictions must be allowed for. For this research, the most appropriate is the quantitative ARDL approach. ARDL is a time series method that works well in previous single-country studies because it allows for mixed order integration of variables, $I(0)$ and $I(1)$, and is valid in small sample sizes (Pesaran, Shin, & Smith, 2001). Firstly, the small sample size of the data (about 34 observations per year) limits the scope for econometric modelling, especially when more than one explanatory variable or lag is added. Second, the many variables become entangled within one single time series design which may influence the reliability and efficiency of the parameter estimates. Third, the use of several institutional characteristics and macroeconomic factors along with lagged dynamics heightens the risk of overfitting the model to this sample, which is the possibility that the model captures the sample very well, but will not capture the economic relationship in a more general context. Thus, the choice of lag length, theoretical argument for included variables and the use of robust diagnostic tests must be carefully considered.

These steps are crucial to help stabilize, ensure, and validate the empirical findings so that they are not sample-specific.

3.4 Variables Definition

3.4.1.1 Dependent Variable: Economic Growth

The dependent variable is Economic growth. Economic growth can be defined as the continued growth in productive capacity and economic efficiency of a country in terms of the capacity of a nation to produce goods and services over a given period of time. However, it is usually perceived as an increase in national income and standards of living in the long term. When analyzing economies using data delivered by an empirical study, most economic growth studies use the changes in real gross domestic product (GDP) per capita in constant U.S. dollars, which are corrected for inflation and the growth in population to enable a meaningful comparison across time (Karaduman, 2022). Previous studies have used different proxies to capture economic growth, such as Fonchamnyo et al. (2021) capturing economic growth as the GDP per capita growth rate. Karaduman (2022) utilized GDP per capita (constant US\$) as a measure of economic growth. In the present study, GDP per capita (constant US\$) is used as a proxy to measure economic growth (GDP).

3.4.1.2 Independent Variable: Disaggregated Foreign Aid

Disaggregated foreign aid is the method of analysis of total Official Development Assistance (ODA) into certain sub-units, or sub-elements, by sector, purpose or type of donor, instead of a unitary aggregate, to enable researchers to understand the pattern of the aid flows, aggregate growth effects of the aid, and heterogeneous short-run and long-run effects of the aid (Alesina and Dollar, 2000). Previous studies have used different proxies to capture foreign aid. For instance, Francisco (2021) used official agencies to measure foreign aid. Nomura (2021) used official development assistance as a proxy to capture foreign aid. In the current study, these donor agencies, such as UNDP, UNFPA, UNICEF, and WFP, are used as a proxy to measure disaggregate foreign aid, in order to capture the pattern and evolution of the aid flows, aggregate growth effects of the aid, and heterogeneous short-run and long-run effects of the aid on the economic growth of Afghanistan.

3.4.1.3 Control Variables

3.4.1.3.1 Exports

Exports represent the total volume of goods and services produced within a country and sold to foreign entities. From a theoretical perspective, the Export-Led Growth (ELG) hypothesis suggests that exports act as a catalyst for economic expansion by increasing total factor productivity, and international trade allows domestic industries to move beyond the limitations of local demand, achieving economies of scale (Fast, 2022). Previous studies have used different proxies to capture export. For instance, Silver (2007) used export value as a proxy to capture export. Additionally, Fast (2022) employed export value as a proxy to measure export. In the current study, export is measured as the Export Value Index.

3.4.1.3.2 Foreign Direct Investment (FDI)

Foreign Direct Investment is international capital flows in the context of which foreign firms are able to gain a continuous economic presence and have control over the markets in host countries. In contrast to short-term portfolio investments, FDI serves long-term engagements, which add up to ownership, control, and constructive operations to the local economy, and is typically quantified in the literature as net FDI inflows (Fonchamnyo et al., 2021). FDI has been measured by different proxies in previous studies. In the current study, FDI is measured as net FDI inflows as a percentage of GDP.

3.4.1.3.3 COVID-19

COVID-19 is controlled for in order to capture the structural shock associated with the pandemic period (2020–2023), during which national lockdowns, border closures, and the contraction of trade and aid operations disrupted economic activity. COVID-19, referred to as Coronavirus Disease 2019, is a highly contagious respiratory illness caused by the SARS-CoV-2 virus (Arat et al., 2023). What started out as a localized outbreak soon transformed into a global health pandemic, causing the world to experience unprecedented interference in the systems of various economies. National lockdowns, border measures, and massive suspension of businesses to a large extent curtailed the production, trade, investment, and labour movement, and output

and income decreased dramatically in both developed and developing economies (Anser et al., 2020). In such a climate of systemic shock, foreign aid took a new and re-organized role of becoming more of a concern with health financing, emergency relief and social protection with significant implications on growth trajectories. Various proxies have been used by different authors to capture COVID-19. For instance, Anser et al. (2020) measured COVID-19 by using the electric power consumption in carbon emissions modeling to analyze its environmental effects pertaining to COVID-19 measures across the world. Meanwhile, Arat et al. (2023) measured COVID-19 using a binary variable, indicating one (1) if trading occurs during the normal market times, pre-COVID-19, and zero (0) otherwise. Rousseau & Deschacht (2020) proxied COVID-19 by using a dummy variable, assigning one (1) for the treatment years 2020 and onward to capture the period affected by the COVID-19 pandemic, and a value of (0) for the years 2019 and earlier. In the current study, COVID-19 is measured by using a dummy variable, indicating (1) for the years 2020 to 2023 if the observation belongs to either of those years and (0) otherwise.

3.5 Measurement of Variables

Table 3.1 Measurement of Variables

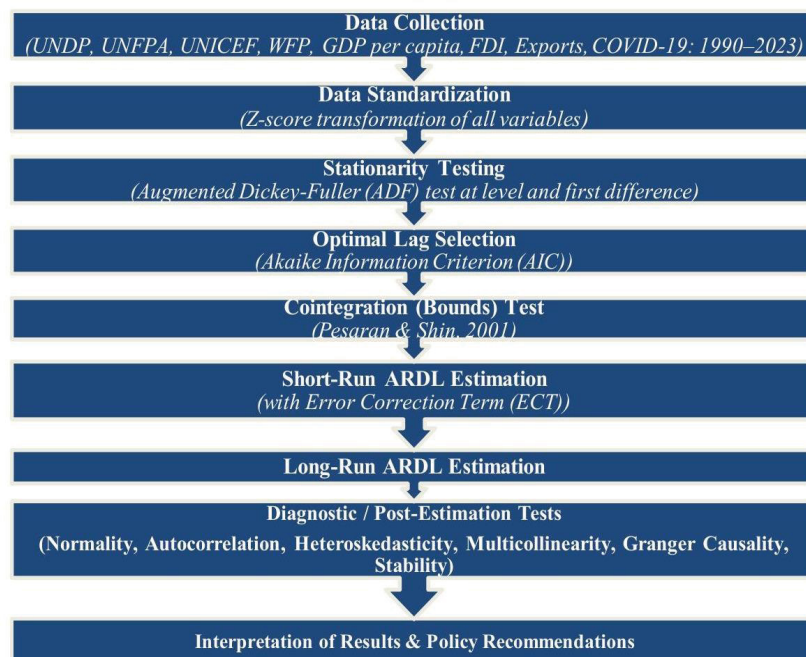
Abbrev	Variables	Measurements	Source
GDP	Economic growth	Economic growth is measured as GDP per capita (constant US\$)	World Development Indicator (WDI)
DFA	Disaggregate foreign aid	Disaggregated foreign aid is measured by donor agencies of UNDP, UNICEF, WFP, and UNFPA	World Development Indicator (WDI)
EXPORTS	Exports	Export is measured as the Export Value Index	World Development Indicator (WDI)

FDI	Foreign direct investment	Foreign direct investment is proxied as foreign direct investment, net inflows as a % of GDP	World Development Indicator (WDI)
COV	COVID-19	COVID-19 is proxied by using a dummy variable, indicating (1) for the years 2020 to 2023 if the observation belongs to either of those years and (0) otherwise	Author's computation

Source: Author's Computation

3.6 Research Model

Figure 3.2. Methodology Flowchart



Source: Author's Computation

This research will use the Autoregressive Distributed Lag (ARDL) approach to examine the short-run and long-run impact of disaggregate foreign aid on economic growth in Afghanistan, specifically, addressing the pattern and evolution of the aid

flows, aggregate growth effects of the aid, and the heterogeneous short-run and long-run effects of the aid on the economic growth of the country. The choice of ARDL was motivated by the special advantages it has over the other co-integration procedures proposed by Johansen and Juselius (Khalil & Inam, 2006). The single reduced equation was approximated using the Ordinary Least Squares (OLS) method following the identification of the order of the ARDL model. The variables in this technique need not be of the same order of integration and it allows the bound test to be effective in regressions of only at order $I(0)$, and at difference $I(1)$, integrated and co-integrated. Moreover, the ARDL approach is specifically suitable when the sample size is small or limited, and the overall outcomes are to be predicted in the future (Abdulkadr et al., 2024). Having a relevant research model in the Afghanistan environment improves the interpretation of results and policy recommendations. In addition, the application of both the ARDL model and the Error Correction Model (ECM) is justified by the fact that these models explain how the interaction between variables changes over time, which provides an insight into long-term connections as well as short-term dynamics related to the Afghanistan economy. Such models enable the endogeneity and causal relationship between variables to be analyzed, which is important in understanding the direction and magnitude of the effect of disaggregation of foreign aid on economic growth in Afghanistan. ARDL models have been known to be effective in small sample sizes. The appropriateness of the model that is chosen on the basis of the specific characteristics of the Afghan economy increases the relevance of the policy to the research. ARDL and ECM can be widely applied in an empirical study and have laid down processes of estimation and inference (Pesaran, Shin, & Smith, 2001). The ARDL model is as follows:

$$\text{ARDL (p, q): } Y_t = \beta_0 + \beta_1 Y_{t-1} + \beta_2 X_{1,t-i} + \beta_3 X_{2,t-i} + \beta_4 X_{3,t-i} + \varepsilon_t \text{ -----}$$

- Equation (1)

It can also be written in an effective structure as:

$$\text{ARDL (p, q): } Y_t = \beta_0 + \sum_{i=1}^p \beta_i Y_{t-i} + \sum_{i=1}^q \beta_i X_{t-i} + \varepsilon_t \text{ -----}$$

Equation (2)

Where lagged Y comprises the autoregressive part; lagged Xs consist of the distributed part. Also, p is the autoregressive lag term, and q is the distributed lag term.

To analyze the impact of disaggregation of foreign aid on economic growth, the Keynesian aggregate demand function served as the foundation for the empirical model's formulation. Similar research also used this approach (Abdulkadr et al., 2024; Phiri et al., 2024; Tarawalie & Kargbo, 2020). Moreover, an unrestricted error correction (ECM) representation of the ARDL framework is offered in the equation below:

$$\Delta ZscoreGDPT = \beta_0 + \beta_1 ZscoreGDPT_{t-1} + \beta_2 ZscoreDFAT_{t-1} + \beta_3 ZscoreEXPT_{t-1} + \beta_4 ZscoreFDIT_{t-1} + \beta_5 ZscoreCOVT_{t-1} + \sum \alpha_{1i} ZscoreGDPT_{t-i} + \sum \alpha_{2i} ZscoreDFAT_{t-i} + \sum \alpha_{3i} ZscoreEXPT_{t-i} + \sum \alpha_{4i} ZscoreFDIT_{t-i} + \sum \alpha_{5i} ZscoreCOVT_{t-i} + \epsilon_t \text{ ----- Equation (3)}$$

Where Δ indicates the first difference operator; β_0 is the constant; ϵ_t is the error term; $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$, and β_5 are the coefficients of the long-run dynamics of the model; and $\alpha_{1i}, \alpha_{2i}, \alpha_{3i}, \alpha_{4i}$, and α_{5i} are the coefficients that depict the short-run relationship.

Also, GDP denotes gross domestic product per capita (economic growth); DFA represents disaggregation of foreign aid; FDI represents foreign direct investment; EXP represents exports; and COV represents COVID-19.

A bounds test was conducted to assess the existence of a long-term relationship between the variables of interest, namely, testing co-integration of economic variables. The critical values used were the ones proposed by Pesaran, Shin, and Smith (2001) (Phiri et al., 2024). The critical values include the lower bound, assuming all the variables take their $I(0)$ form, and the upper critical value, which, if exceeded, rejects the null hypothesis (H_0) in favor of the alternative hypothesis, indicating the existence of cointegration between the variables. When the sample F-statistic has a value lower than the lower critical value, H_0 is not rejected, which means that there is no cointegration between the variables. In case the sample F-statistic lies between the lower and upper critical values, the outcome is inconclusive. In this case, the statistical significance of the speed of adjustment coefficient can be investigated, which indicates that a large coefficient indicates that the variables have co-integration. Therefore, to test the null hypothesis of the non-existence of a co-integration relationship between the variables:

$$H_0: \beta_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5$$

In contrast to the alternate hypothesis, which suggests the presence of cointegration among variables:

$$H1: \beta_0 \neq \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5$$

Following the execution of the bounds cointegration test, which confirmed the presence of cointegration within the model, the error correction model (ECM) representation of the ARDL model is presented as follows:

$$\Delta ZscoreGDPT = \beta_0 + \sum \alpha_{1i} ZscoreGDPT-i + \sum \alpha_{2i} ZscoreDFA_{t-i} + \sum \alpha_{3i} ZscoreFDI_{t-i} + \sum \alpha_{4i} ZscoreEXPT-i + \beta_5 ZscoreCOV_{t-1} + \epsilon_t \text{ ----- Equation (4)}$$

Where ECM_{t-1} is the error correction term indicating the speed at which adjustments are made to restore long-run equilibrium following a short-term disturbance.

Note that GDP denotes gross domestic product per capita (economic growth); DFA represents disaggregation of foreign aid; FDI represents foreign direct investment; EXP represents exports; and COV represents COVID-19.

3.7 Data Analysis Techniques and Robustness Testing

This section outlines the empirical framework of time series data used in examining the relationship between disaggregation of foreign aid and economic growth. The data analysis, including robustness checks that will be done in this research, is as follows: pre-estimation tests: (1) Augmented Dickey-Fuller (ADF) unit root, (2) lag selection criteria, (3) cointegration test through the bounds test. Post-estimation tests are: (1) normality test, (2) serial correlation, (3) heteroskedasticity test, (4) multicollinearity, (5) stability test, (6) Granger causality test. These are the robustness tests that will be done in this research. Thereafter, the Autoregressive Distributed Lag (ARDL) approach and Error Correction Model (ECM) will be used to examine the short- and long-run effects of disaggregation of foreign aid on economic growth in Afghanistan. Potential endogeneity can occur when foreign aid and economic growth affect one another at the same time. Although the ARDL model does not remove the problem of endogeneity completely, it is a dynamic model that includes lagged values of the dependent and independent variables, which helps to minimize potential simultaneity bias and also explains both short-run and long-run relationships. However, there is also a risk of endogeneity, and this should be taken into account when analyzing the empirical results. Future studies could use instrumental variable

(IV), Generalized Method of Moments (GMM), and panel data methods to further address this issue.

3.7.1 Pre-Estimation Test

Unit root tests: this is a test that is conducted to examine the stationarity of the variables. The pre-estimation tests involved the examination of the stationarity of all the variables. This is necessary because non-stationary variables that have unit root values may give inaccurate results due to something different happening when analysing a larger sample, which may also result in abrupt interpretations. The Augmented Dickey-Fuller (ADF) test, which is commonly used, was used to determine the existence of stationarity (Phiri et al., 2024; Witt et al., 1998). One should also prevent spurious regression outcomes as well as ensure legitimate statistical conclusions of econometric models. Values that are included in a model, such as VAR or ARDL, explain the dynamism of the dependent variables without overfitting or losing degrees of freedom, making it accurate when specifying a model and yielding accurate results (Abdulkadr et al., 2024). The Akaike Information Criterion (AIC) was used to determine it.

Co-integration test through the bounds test: the co-integration test exposes the state that there are long-run relationships existing among non-stationary variables in the sense that their joint behavior would not run away with time, hence any economic explanation would signify something (Phiri et al., 2024).

3.7.2 Post-Estimation Test

Normality Test: the normality test is used to determine whether a specific data set, or the residuals of a regression equation, follows a normal distribution (Hernandez, 2021). Residual normality is very important to the extent of regression analysis, to test and infer the hypothesis testing. Moreover, when the value of p exceeds 0.05, then there is a normal distribution of data. This is achieved through the Jarque-Bera normality test.

LM Correlation Test: this test answers whether the errors or the residual values of a regression analysis model are correlated according to time or according to several observations taken (Gourieroux et al., 1985). The statistic used to measure autocorrelation in the residuals is the Durbin-Watson test statistic.

Heteroskedasticity Test: this is used to test whether the variance of the residuals remains constant across the values of the independent variables (Dorfman, 2024). The White test is used to verify the permanence of the variances of errors. Homoskedasticity is indicated by a probability value above 0.05, whereas heteroskedasticity is indicated by a probability value below 0.05.

Stability Test: this is the test that is used to determine how the parameters of a model are stable over the course of time in order to make sure that the model is reliable in terms of forecasting and analyzing policies (Abdulkadir et al., 2024; Phiri et al., 2024). The CUSUM test and the CUSUM squares test were also used to check whether there are no structural breaks that may affect the model.

Granger Causality Test: the Granger causality test is used to define whether a particular variable can predict another in a time series setup, i.e., the presence and the direction of the causality between the two variables (Abdulkadir et al., 2024; Phiri et al., 2024).

CHAPTER IV

FINDINGS AND ANALYSIS

Chapter 4 presents the empirical estimation results and discussion on the impact of disaggregated foreign aid on economic growth in Afghanistan during the period 1990–2023. The analysis employs the Autoregressive Distributed Lag (ARDL) approach to identify the short-run and long-run dynamics between foreign aid and economic growth, measured by Gross Domestic Product (GDP) per capita. The country of Afghanistan experienced significantly deep political and economic changes that altered the trend of international aid inflow between the 1990s and the post-2001 period. A number of UN agencies, such as the United Nations Development Programme (UNDP), the United Nations Population Fund (UNFPA), the United Nations Children's Fund (UNICEF), and the World Food Programme (WFP), were important aspects of providing aid in the major areas, such as institutional capacity building, education, healthcare, population programs, and food security. This study, therefore, extends the discussion of the net implication of foreign aid by exploring the unique role played by the different categories of aid in economic growth.

This chapter is recorded in an ordered way. It starts with a presentation of pre-estimation test reports, such as the unit root test as a diagnostic of stationarity of the variables, determination of the best lag length, and the co-integration (bounds) test to determine the existence of the long-run association between the variables. Subsequently, the chapter documents the findings of the ARDL model estimation, on both short-run and long-run coefficients, and the Error Correction Model (ECM) to assess the rate at which deviations are moving toward long-run equilibrium. It discusses not just the statistical significance but also the economic implications of the results, which relate to the structural economic condition of Afghanistan, the changing environment of conflict, and the transformation of international policy at the time the research was conducted. All in all, this chapter is expected to provide an in-depth insight into the impact of disaggregated foreign aid on the economic growth of Afghanistan, both in the short and long term.

4.1 Descriptive Statistics

This segment of the study describes the major characteristics of the dataset that will be used to review the impacts of disaggregated foreign aid on the economic growth of Afghanistan during 1990-2023. The descriptive analysis gives a rough idea of the pattern, movements and variability of each variable before proceeding to other more sophisticated econometric tests. The descriptive statistics reported comprise the mean, maximum and minimum value, standard deviation and total value of each variable of interest: economic growth (GDP per capita) and foreign assistance provided by UNDP, UNFPA, UNICEF and WFP. The analysis allows for the determination of reasons behind variability in the flows of aid and the trend in the economic performance of Afghanistan during the years of the analysis. The mean values indicate the general inclination of the variable, and the standard deviation indicates the degree of variation around the mean. At the same time, the difference between the maximum and minimum values brings to the fore the possibility of economic shocks or spikes in aid, especially in post-conflict years and periods of political transition. In turn, such descriptive statistics allow gaining a background idea of the data structure and help to make sense of the results of the ARDL estimation reported in the subsequent sections.

Table 4.1 Description of Research Variables

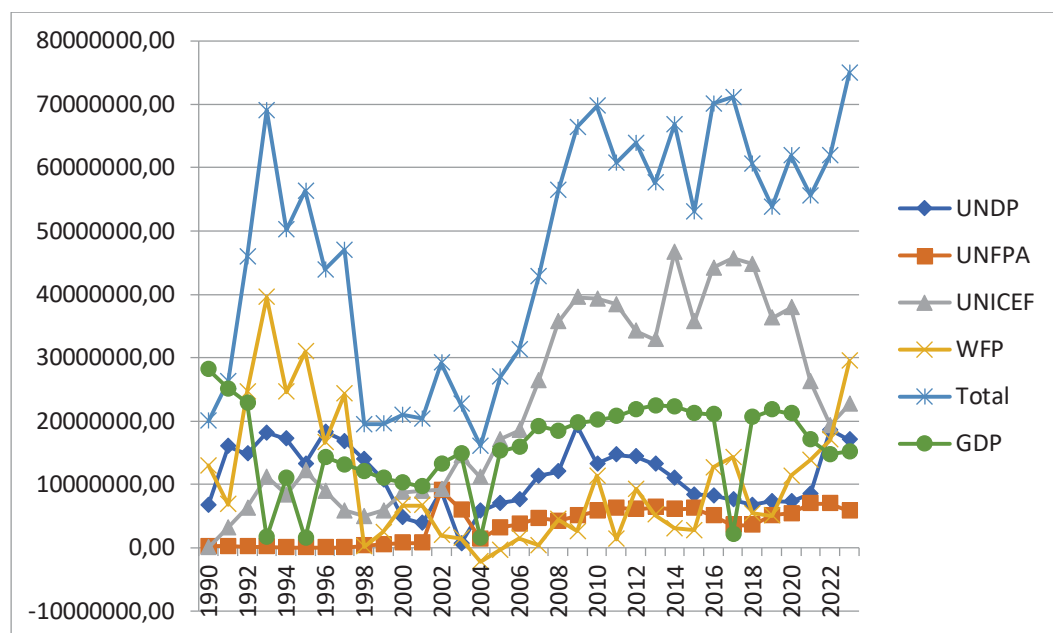
No.	Variable	N	Mean	SD	Max	Min
1	UNDP	34	11,280,353.800	4,847,912.504	19,239,999.771	639,999.986
2	UNFPA	34	3,525,896.575	2,761,367.516	9,029,999.733	10,000.000
3	UNICEF	34	22,383,776.721	14,956,327.478	46,702,690.125	10,000.000
4	WFP	34	10,240,432.376	10,354,009.849	39,529,998.779	-2,220,000.029
5	Total	34	47,430,459.473	18,932,225.743	74,995,510.037	16,090,000.272
6	GDP	34	15,910,998.265	6,916,227.779	28,118,688.000	1,472,214.000
7	Exports	34	69.465	50.646	163.800	11.900
8	FDI	34	59,453,981.982	76,733,842.380	271,000,000.000	-1,460,000.000

Source: Author's Computation

Disaggregated foreign aid during 1990-2023 made by the United Nations Development Programme (UNDP) was an average of USD 11,280,353.800 and had a standard deviation of USD 4,847,912.504, which indicates fairly moderate variability. The disbursement level of USD 19,239,999.771 in 2009 was the highest, and the

minimum of USD 639,999.986 in 2003, so there was variability in the aid flows over the period of observation. This wide gap between the maximum and minimum values implies that UNDP aid allocations to Afghanistan were highly uneven across years. Such fluctuations may be associated with changes in development priorities, shifts in donor strategies, and variations in country-specific conditions, including political instability and reconstruction phases. Overall, these findings suggest that UNDP aid flows during the period under study were characterized by significant temporal volatility rather than a steady or predictable pattern.

Figure 4.1. Foreign Aid by UNDP, UNFPA, UNICEF, WFP, TOTAL & GDP (1990-2023)



Source: Author's Computation

The mean and standard deviation of the population aid received from the United Nations Population Fund (UNFPA) were USD 3,525,896.575 and USD 2,761,367.516, respectively. The highest allocation of up to USD 9,029,999.733 was in 2002, and the lowest was USD 10,000.000 in the period between 1994 and 1997, indicating big swings on an annual basis with regard to the allocation of funds. A disparity between the highest and lowest values of aid flows, such as that demonstrable for UNFPA, indicates important level shifts from year to year. These significant fluctuations can be explained by varying priorities in country programs, fluctuations in donors' aid support, and changes in humanitarian needs or the country's population.

Especially at times of high crisis or reconstruction, funding could have been increased, and more stable times have known reduced funding. Overall, the study results indicated that UNFPA population assistance was highly volatile and context-sensitive and not necessarily following a steady course of development.

The United Nations Children's Fund (UNICEF) was the biggest contributor with an average amount of USD 22,383,776.721, followed by a huge standard deviation of USD 14,956,327.478. Its highest year of disbursement was USD 46,702,690.125 in 2014, while the lowest disbursement year was in 1990 at USD 10,000.000, showing a very big jump in disbursements in some years. A difference like this reflects the imbalance in UNICEF funding over time. The steep rise in some years could relate to greater humanitarian needs, emergency response, or greater development programme efforts in the areas of child protection, education and health. However, the decrease in disbursements in previous years could be due to smaller programs or the priorities of the funding source. The overall results suggest that UNICEF assistance had a lot of peaks at particular points in time and was not necessarily continuous, which suggests that UNICEF was responsive to the changing socio-economic and humanitarian context.

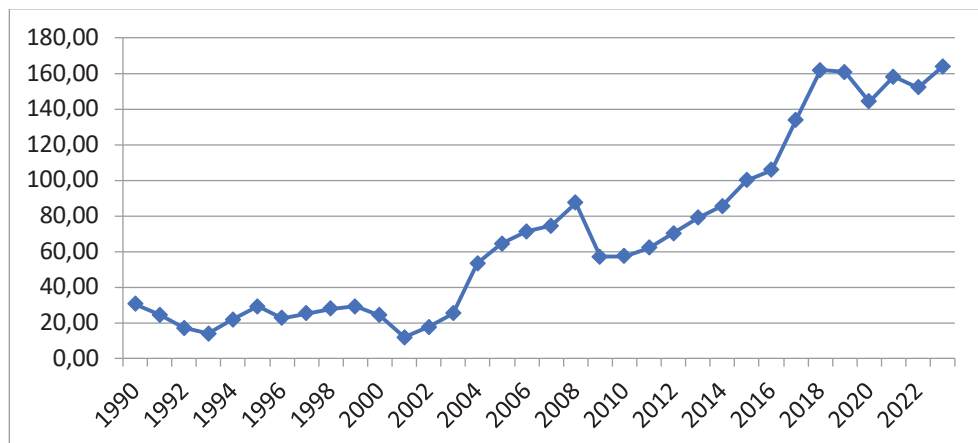
In the meantime, the World Food Programme (WFP) had an average of USD 10,240,432.376 with a standard deviation of USD 10,354,009.849, which is almost equal to its average value and therefore indicates high volatility. The highest peak occurred in 1993 (USD 39,529,998.779) while the lowest trough occurred in 2004 (USD -2,220,000.029), suggesting funding can vary substantially in some years and/or that negative net adjustments are possible. This may not necessarily indicate an actual negative transfer, but in aid statistics, it is not unusual to find negative values which are the result of financial reconciliations. In general, the results indicate that WFP's aid flows were very volatile and responsive to shifts in the humanitarian context, emergency operations, and operational adjustments. The high degree of variation reflects the nature of food assistance, which is frequently of the "crisis-response" type and hence less stable than development assistance.

In general, the mean of total foreign aid was USD 47,430,459.453, with a standard deviation of USD 18,932,225.743. Of the total, the biggest amount was USD 74,995,510.037 while the smallest was USD 16,090,000.272, indicating that, although

the amounts of aid in general were significant, this was not to the exclusion of the variations over time. These variations suggest that, while the overall amount of support was large, there were some significant fluctuations from year to year. These observations suggest that the overall amount of foreign assistance provided to Afghanistan was greatly temporally unstable, perhaps due to changing donor priorities, geopolitical environments, and Afghanistan's development and humanitarian needs. As such, the low level of aid, albeit with a variable profile, may impact the sustainability and effectiveness of long-term economic planning.

Looking at the macroeconomic performance, GDP was on average USD 15,910,998.265 with a standard deviation of USD 6,916,227.779, which shows considerable variation in economic growth during the period 1990-2023. The highest level of GDP was USD 28,118,688.000, while the lowest level was USD 1,472,214.000, reflecting the high level of distortion of the Afghan economic course. The enormous range between the high and the low indicates a strong structural change and disruption of the country's economic trajectory. These fluctuations probably correspond to times of war, political changes, reliance on foreign assistance and reconstruction periods, which have had an impact on economic performance over the years. In general, it appears that the overall economic development of Afghanistan has come with highly volatile and low-consistent growth trends. These reported figures are substantially higher than published estimates of Afghanistan's GDP per capita, which the World Bank's World Development Indicators place in the range of roughly USD 350–600 (constant terms) across most of this period, several orders of magnitude below the values shown in Table 4.1. This discrepancy suggests that the GDP series in the underlying dataset may not be correctly expressed as GDP per capita in constant US dollars — for example, it may reflect a different unit, a different currency base, or a data-import/scaling error. Accordingly, the GDP figures in Table 4.1 should be interpreted as reflecting the scale of the underlying dataset rather than literal per-capita dollar values, and the descriptive magnitudes should be read with this caveat in mind. Importantly, because all variables are transformed into z-scores prior to estimation (Section 4.2.1), the scaling of the raw series does not affect the standardized ARDL coefficient estimates or the inferences drawn from them.

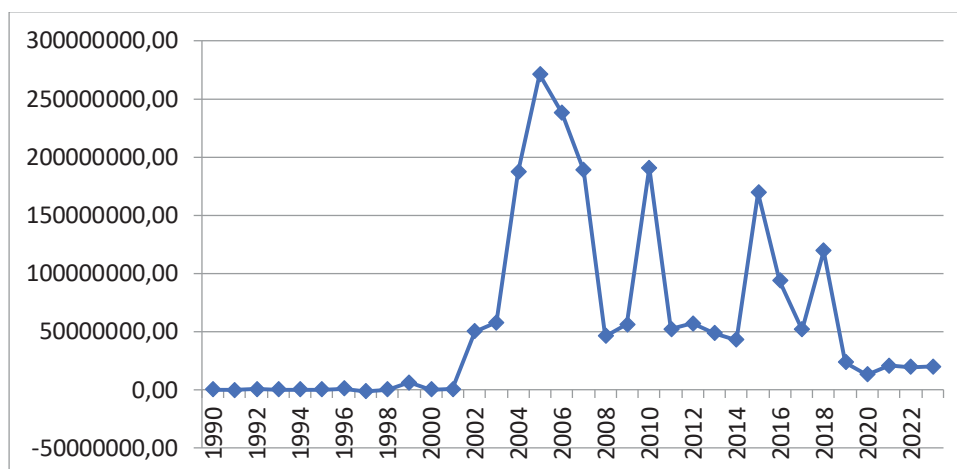
Figure 4.2. Exports Value Index (1990-2023)



Source: Author's Computation

The value index of exports had an average of about 69.47 during the period under study, with a fairly high standard deviation of about 50.65, as presented in the descriptive statistics. The large size indicates that it is very different as an export performer — the level of export activity varies over time. This is further illustrated by the large differences between high and low values. The highest peak of the Index was 163.80, and the lowest was 11.90, showing considerable changes in export performance during various periods. Such changes may be linked not only to changes in world demand and commodity prices, trade policy and domestic productivity, but also to external change, such as political fluctuations or logistics. Overall, the findings revealed that export performance in Afghanistan was fluctuating, with export booms and busts, due to the internal and external situation.

Figure 4.3. Foreign Direct Investment (1990-2023)



Source: Author's Computation

The mean of Foreign Direct Investment (FDI) was USD 59,453,981.982 and its standard deviation was quite high, with a value of USD 76,733,842.380. Having a maximum of USD 271,000,000.000 and a negative minimum of USD -1,460,000,000.000, the results show that the investment flows are highly volatile. The standard deviation is bigger than the mean itself, which means that it is highly unstable: the negative minimum represents instances of the outflow of capital. A significant negative minimum means that there were times when capital flowed out, possibly due to divestment, repatriation of profits, or withdrawal of foreign investments. Overall, these findings demonstrate that FDI to Afghanistan has been very volatile, with substantial inflows during some periods and massive outflows during others. Thus, foreign investment is very sensitive to economic forces, political stability and investor confidence, and leads to an uncertain and volatile contribution to economic growth.

4.2 ARDL Data Analysis

4.2.1 Data Standardization

It is worth noting that the data has been standardized initially to achieve parity among the various kinds of data. Data standardization is a procedure that resorts to transforming the values into a standard scale contained within a range of values. One of the commonly employed methods is the z-score transformation. Through the use of the z-score system, all the variables have been put on the same scale of measurement, thus enhancing the consistency of the analysis. At this step, one needs to get the average and standard deviation of each variable. The corresponding mean and standard deviation of all the variables of the study are presented in Appendix 2.

4.2.2 Stationarity Test

Stationarity is an essential prerequisite in time-series analysis, as non-stationary data may produce misleading or spurious regression outcomes. To assess whether a variable is stationary, a unit root test, specifically the Augmented Dickey-Fuller (ADF) test, is commonly employed. The following section reports the results of the ADF stationarity tests for GDP and the disaggregated foreign aid variables, namely assistance provided through UNDP, UNFPA, UNICEF, and WFP. The detailed results are presented in Table 4.2 and further elaborated in Appendix 3.

Table 4.2 Augmented Dickey-Fuller Test Results at Level

Variable	t-statistic	p-value	Decision
Gross Domestic Product (GDP)	-4.1472	0.0082	Stationary
Disaggregated Foreign Aid from UNDP	-2.5628	0.1107	Not Stationary
Disaggregated Foreign Aid from UNFPA	-2.1322	0.2340	Not Stationary
Disaggregated Foreign Aid from UNICEF	-1.6172	0.4628	Not Stationary
Disaggregated Foreign Aid from WFP	-2.2186	0.2038	Not Stationary

Source: Author's Computation

Based on Table 4.2, the p-values for all variables exceed the 5% significance level ($\alpha = 0.05$), leading to the acceptance of the null hypothesis (H_0). This result suggests that the four disaggregated foreign aid variables, assistance provided through UNDP, UNFPA, UNICEF, and WFP, contain a unit root at the level form, indicating that they are non-stationary. In contrast, GDP is the only variable found to be stationary at the level. To achieve stationarity for the non-stationary variables, the unit root test is then repeated using the first-difference transformation.

Table 4.3 Augmented Dickey-Fuller Test Results at First Difference

Variable	t-statistic	p-value	Decision
Gross Domestic Product (GDP)	-8.9714	0.0000	Stationary
Disaggregated Foreign Aid from UNDP	-7.5294	0.0000	Stationary
Disaggregated Foreign Aid from UNFPA	-6.2732	0.0000	Stationary
Disaggregated Foreign Aid from UNICEF	-6.2283	0.0000	Stationary
Disaggregated Foreign Aid from WFP	-7.5550	0.0000	Stationary

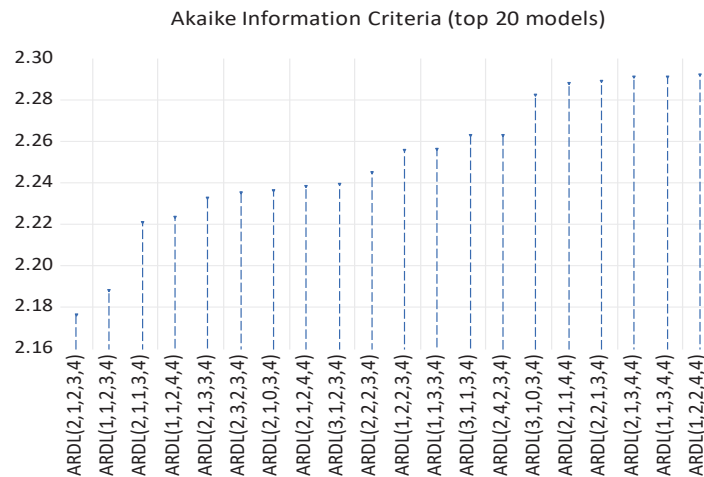
Source: Author's Computation

Based on Table 4.3, it can be seen that the p-values for all variables are smaller than the significance level $\alpha = 5\%$, so the null hypothesis (H_0) is rejected. This indicates that all variables are stationary at the first difference level.

4.2.3 Optimal Lag Length

The optimal lag selection test is conducted to identify the most appropriate lag structure for the model specification. Determining the correct lag length is crucial to ensure reliable and efficient estimation within the ARDL framework. The optimal lag is typically indicated by the greatest number of asterisks in the selection criteria. Based on the lag length criteria illustrated in the graph, the dependent variable is assigned a lag of 1, while the independent variables have a maximum lag length of 4. Furthermore, the results of the Akaike Information Criterion (AIC) test suggest that the optimal lag combination for the ARDL model is (2,1,2,3,4) for the five respective variables. The study used the Akaike Information Criterion (AIC) model selection criteria, which is widely used in ARDL applications for balancing the fit of the model and dynamic specification in small sample contexts, while the Bayesian Information Criterion (BIC) is highly recommended for selecting a more parsimonious lag structure in small samples, as seen in Table 4.4. Moreover, the model specification used in the present study was acceptable because all of the post-estimation tests passed, including the normality test, serial correlation test, heteroskedasticity test, and the CUSUM stability test.

Figure 4.4. Optimum Lag Results from the Akaike Information Criteria



Source: Author's Computation

Table 4.4 Lag Option

Criterion	ARDL Lag
AIC	2,1,2,3,4
BIC	2,3,1,2,4

Source: Author's Computation

4.2.4 Cointegration Test (Bound Test)

Table 4.5 The Cointegration Bound Test Results

Test Statistic	Value		
F-Statistic	5.9373		
Significant	-	I(0) Bound	I(1) Bound
10%	-	2.200	3.090
5%	-	2.560	3.490
1%	-	3.290	4.370

Source: Author's Computation

According to the results of the cointegration analysis using the Bounds Test presented in Table 4.5, the variables are cointegrated in the long run. This is evidenced by the F-statistic value of 5.9373, which is significant at the 5% level and exceeds both the lower bound I(0) and the upper bound I(1) critical value. A cautionary note should be made regarding the use of this evidence, however: first, the estimated error-correction term is positive and statistically insignificant, $\text{CointEq}(-1)$; second, there are only 34 observations in the sample, which may be too few for the long-run cointegration relationship to be reliably identified.

4.2.5 ARDL Estimation Results

The results of the Bound Test cointegration indicate the existence of a long-run relationship among the variables. Therefore, the ARDL model can be estimated in two forms: short-run and long-run models.

4.2.5.1 Short-Run ARDL Model Estimation

Table 4.6 Short-Run ARDL Model Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Information
D(GDP(-1))	-0.444840	0.198595	-2.239929	0.0448	Significant
D(GDP(-2))	-0.191885	0.190766	-1.005866	0.3343	Not Significant

D(UNDP)	0.032484	0.200539	0.161981	0.8740	Not Significant
D(UNDP(-1))	0.412452	0.205607	2.006020	0.0679	Not Significant
D(UNFPA)	0.539783	0.244462	2.208039	0.0474	Significant
D(UNFPA(-1))	0.161480	0.211662	0.762918	0.4602	Not Significant
D(UNFPA(-2))	-0.292732	0.243625	-1.201569	0.2527	Not Significant
D(UNICEF)	0.077693	0.351174	0.221238	0.8286	Not Significant
D(UNICEF(-1))	0.206614	0.334729	0.617259	0.5486	Not Significant
D(UNICEF(-2))	0.603994	0.353425	1.708972	0.1132	Not Significant
D(UNICEF(-3))	-0.884740	0.489056	-1.809076	0.0955	Not Significant
D(WFP)	-0.509299	0.233453	-2.181585	0.0498	Significant
D(WFP(-1))	-0.112303	0.255248	-0.439974	0.6678	Not Significant
D(WFP(-2))	-0.291335	0.255332	-1.141005	0.2761	Not Significant
D(WFP(-3))	0.172199	0.193867	0.888233	0.3919	Not Significant
D(WFP(-4))	0.567800	0.199739	2.842710	0.0148	Significant
CointEq(-1)	0.053369	0.134932	0.395525	0.6994	Not Significant

Source: Author's Computation

$R\text{-squared} = 0.840217$ $Adjusted\ R\text{-squared} = 0.627173$ $S.E.\ of\ regression = 0.621262$ $F\text{-statistic} = 3.943869$ $Prob(F\text{-statistic}) = 0.010302$ $Durbin\text{-Watson}\ stat = 2.026923$

Table 4.6 presents the results of the short-run relationship. Since the bounds cointegration test indicates a long-run relationship between the variables, the subsequent stage is to estimate the ECM. However, the estimated error-correction term, CointEq(-1), is positive (0.053) rather than negative, and it is not statistically significant ($p = 0.699$), indicating that the existence of a stable long-run equilibrium relationship cannot be confirmed. Given the limited sample of 34 observations, the study may have insufficient statistical power to reliably identify a long-run cointegration relationship.

Furthermore, the R-squared value of 0.840217 is very close to 1, which suggests that about 84.02% of the variability in the dependent variable is accounted for by the independent variables in the model. This indicates that the model is fairly powerful in explaining the relationship among the variables. The Durbin-Watson (DW) statistic is 2.026923, which is very close to 2, generally considered an indication that there is not a serious problem with autocorrelation in the residuals (model errors). The F-statistic is 3.943869 and Prob(F-statistic) is less than $\alpha = 5\%$ ($0.010302 < 0.05$),

which means that the independent variables in the model collectively have a significant effect on the dependent variable.

The disaggregated UN agencies' aid shows mixed effects on the economic growth of Afghanistan in the short run from the ARDL results. The effect of UNDP aid on economic growth is statistically insignificant in the short run ($p = 0.874$, standardized units, $\beta = 0.032$). This means that, in the sample period, there is no discernible short-run relationship between development-oriented aid via UNDP and GDP growth. This is broadly in line with Arndt, Jones and Tarp (2015), who state that development assistance mostly affects economic growth through a long-term increase in institutional quality, governance, infrastructure, and human capital, which are not always measurable in the short run.

Furthermore, in the short run, UNFPA aid has a positive and statistically significant impact on economic growth (standardized units, $\beta = 0.540$, $p = 0.047$). This means that with a one standard deviation increase in UNFPA aid, the short-run increase in GDP growth is 0.540 of the UNFPA aid standard deviation, indicating positive impacts on human capital development and economic productivity from investments in health, reproductive services, and child welfare. The results are in line with those of Burnside (2000) and Kargbo & Sen (2014), which state that development and social sector aid can contribute to economic growth by improving human capital and institutional capacity.

Furthermore, there is no contemporaneous impact of UNICEF aid on economic growth in Afghanistan in the short run, with standardized units of $\beta = 0.078$ at $p = 0.829$. UNICEF's low impact in the short term on Afghanistan's growth can be attributed to the nature of support, which is mainly concerned with human development rather than an increase in productive capacity. The main focus areas for UNICEF assistance are child protection, water and sanitation, education, nutrition and child health. These interventions do not immediately result in an increase in economic output or Gross Domestic Product (GDP) in a short time frame, but rather in the long term, by improving human capital.

This is in line with Clemens et al. (2012), that foreign aid's effect on economic growth is based on the type of aid given. Social sector and human development expenditures have long-term economic returns, as health and education improvements

only take time to become a factor in labor productivity and economic growth. By contrast, infrastructure- and productive sector-focused aid has a greater chance of impacting economic growth in the short term.

However, in the short run, WFP aid shows a statistically significant but time-varying effect on economic growth rather than a uniformly negative one. The contemporaneous WFP coefficient is negative and significant ($\beta = -0.509$, standardized units, $p = 0.050$), indicating that a one-standard-deviation increase in current-period WFP aid is associated with a 0.509 standard-deviation decrease in GDP growth in the same period. This contemporaneous negative effect could reflect the nature of emergency food assistance, which tends to be consumption-oriented and focused on humanitarian needs rather than productive investment, consistent with Easterly (2006) and Djankov et al. (2008). By contrast, the fourth-lag WFP coefficient is positive and significant ($\beta = 0.568$, standardized units, $p = 0.015$), indicating a delayed effect from assistance provided four years earlier. The opposing signs of the contemporaneous and fourth-lag coefficients show that WFP assistance has a dynamic short-run effect on Afghanistan's economic growth: an immediate negative association tied to its emergency, consumption-oriented nature, followed by a positive association that emerges only after a substantial lag. Because the short-run effect combines both a negative immediate and a positive delayed response, WFP aid should not be characterized as straightforwardly positive or negative in the short run.

4.2.5.2 Long-Run ARDL Model Estimation

The long-run estimation of the ARDL model yields the results presented in Table 4.7:

Table 4.7 Long-Run ARDL Model Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(UNDP(-1))	0.271845	0.180694	1.504452	0.1455
D(UNFPA(-1))	0.249603	0.290543	0.859090	0.3988
D(UNICEF(-1))	0.002176	0.423620	0.005136	0.9959
D(WFP(-1))	-0.105661	0.427718	-0.247033	0.8070
C	0.032607	0.084747	0.384758	0.7038

Source: Author's Computation

Table 4.7 presents the ARDL long-run estimates. Although the bounds-test F-statistic is significant, the error-correction term is positive and statistically insignificant, so the long-run relationship cannot be considered reliably identified on

34 observations. The long-run coefficients below are therefore reported as indicative only and are interpreted with caution. The results of this study are generally consistent with those of other studies across a number of African nations in which the impact of foreign assistance has been mixed. While previous research has found that development aid can have beneficial longer-term economic impacts when accompanied by good governance and institutions, humanitarian aid is more likely to provide limited longer-term economic impacts when it is focused on short-term welfare provision. The result of the present study is not different from other studies in African economies that indicate that the impact of foreign assistance is not only dependent on the amount of aid, but also on the nature of the aid and the institutional context in which the aid is delivered.

The estimated long-run UNDP coefficient is positive ($\beta = 0.272$, standardized units) but not statistically significant ($p = 0.146$). This means the data do not provide reliable evidence of a long-run relationship between UNDP aid and GDP per capita; the positive sign is only directionally suggestive, and this study cannot confirm, on the basis of this coefficient alone, that development assistance facilitates long-run economic growth in Afghanistan. Any comparison with Burnside & Dollar (2000), who argue that aid supports growth only in a favorable policy and institutional environment, should be read as a discussion of consistency in direction rather than confirmation of a statistically significant long-run effect.

The estimated long-run UNFPA coefficient is also positive ($\beta = 0.250$, standardized units) but not statistically significant ($p = 0.399$). As with UNDP, the long-run association between UNFPA aid and GDP per capita cannot be confirmed statistically in this sample, even though the direction is consistent with the view — echoed in Sachs et al. (2004) — that funding population and reproductive health programmes can support human capital development and productivity over the longer term.

The estimated long-run UNICEF coefficient is essentially zero ($\beta = 0.002$, standardized units) and far from statistically significant ($p = 0.996$). This indicates no detectable long-run association between UNICEF aid and GDP per capita in this sample. The near-zero, insignificant coefficient is broadly consistent with the idea that social-welfare and child-focused interventions operate through gradual, harder-to-

detect channels such as human capital accumulation (Schultz, 1961; Sachs et al., 2004; Gyimah-Brempong & Asiedu, 2008), but it should not be read as evidence, in itself, that UNICEF aid contributes to long-run growth in Afghanistan.

The estimated long-run WFP coefficient is negative ($\beta = -0.106$, standardized units) but not statistically significant ($p = 0.807$). The data therefore do not provide reliable evidence of a long-run relationship, positive or negative, between WFP aid and GDP per capita in Afghanistan. The negative sign is only directionally suggestive of the idea that food aid directed toward humanitarian emergencies is less associated with long-run productive investment than development-oriented assistance, in line with Djankov et al. (2008), but this study cannot confirm that relationship statistically.

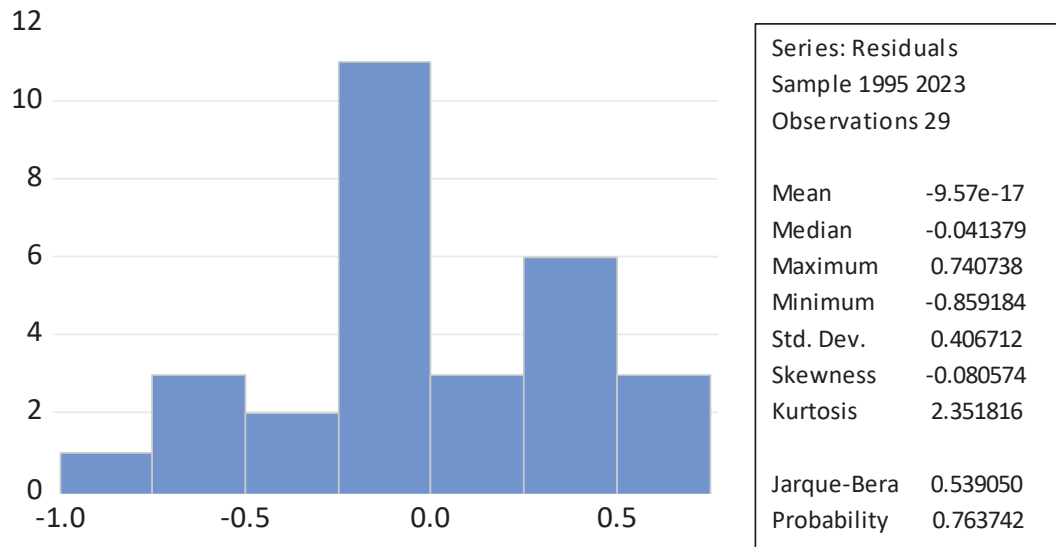
The study finds evidence of long-run cointegration, but no statistically significant agency-specific long-run coefficient.

4.3 Classical Assumption Tests

4.3.1 Normality Test

This study uses the Jarque-Bera method to determine whether the residuals (errors) in the model are normally distributed. The test results show a Jarque-Bera value of 0.539050 and a probability of 0.763742, which indicates the strength of evidence for accepting or rejecting the null hypothesis (H_0). In the context of the Jarque-Bera test, H_0 states that the residuals are normally distributed, and since the probability is greater than $\alpha = 5\%$, H_0 is not rejected.

Figure 4.5. Normality Test



Source: Author's Computation

4.3.3 Heteroskedasticity Test

The Breusch-Pagan-Godfrey method is used to test for heteroskedasticity by comparing the probability value of Obs*R-squared with the significance level (α) of 5%. The results of the heteroskedasticity test are presented in Table 4.9:

Table 4.9 Heteroskedasticity Test Results (Breusch-Pagan-Godfrey)

Statistic	Value	Test	Probability
F-statistic	1.395488	Prob. F(16,12)	0.2830
Obs*R-squared	18.86245	Prob. Chi-Square(16)	0.2759
Scaled explained SS	2.182992	Prob. Chi-Square(16)	1.0000

Source: Author's Computation

Based on the results shown in Table 4.9, the F-statistic probability (0.2830) and Obs*R-squared (0.2759) are greater than $\alpha = 5\%$. This indicates that the ARDL model does not experience heteroskedasticity, meaning that the residual variance is uniform across all observations.

4.3.2 Autocorrelation Test

The autocorrelation test aims to analyze whether there is a relationship between the errors of one observation and those of another. In this study, the test is conducted

using the Breusch-Godfrey Serial Correlation LM Test. The results of the autocorrelation test can be seen in Table 4.8:

Table 4.8 Autocorrelation Test Results (Breusch-Godfrey Serial Correlation LM Test)

Statistic	Value	Test	Probability
F-statistic	1.104704	Prob. F(4,8)	0.4173
Obs*R-squared	10.31867	Prob. Chi-Square(4)	0.0354

Source: Author's Computation

Based on the test results in Table 4.8, the diagnostic evidence on autocorrelation is mixed rather than clearly satisfactory. The F-statistic probability (0.4173) is greater than $\alpha = 5\%$, which on its own would suggest no autocorrelation. However, the Obs*R-squared (LM) statistic has a probability of 0.0354, which is below $\alpha = 5\%$ and would indicate the presence of autocorrelation. Because the two versions of the test disagree, the result is treated here as inconclusive rather than as clear evidence that the model is free of autocorrelation, and this is noted as a limitation of the short-run specification.

4.3.4 Multicollinearity Test

The multicollinearity test is a statistical method used to examine whether there is an excessively strong relationship between the independent variables in a regression model. If this relationship is too high, the estimated regression coefficients may become unstable and less accurate, making the results difficult to interpret. The method used to detect multicollinearity is the Variance Inflation Factor (VIF). A VIF value greater than 10 indicates serious multicollinearity, whereas the condition for no multicollinearity is that the Centered VIF is less than 10. The results of the multicollinearity test can be seen in Table 4.10:

Table 4.10 Multicollinearity Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
D(GDP(-1))	0.039440	3.151330	3.138649
D(GDP(-2))	0.036392	3.784225	3.781947
D(UNDP)	0.040216	1.987968	1.987963
D(UNDP(-1))	0.042274	2.081732	2.081692
D(UNFPA)	0.059762	2.343657	2.320022

D(UNFPA(-1))	0.044801	1.736256	1.711916
D(UNFPA(-2))	0.059353	2.300200	2.268475
D(UNICEF)	0.123323	1.378081	1.368075
D(UNICEF(-1))	0.112043	1.247381	1.244440
D(UNICEF(-2))	0.124909	1.355123	1.335354
D(UNICEF(-3))	0.239176	2.244395	2.129084
D(WFP)	0.054501	2.144384	2.143304
D(WFP(-1))	0.065152	2.671471	2.643986
D(WFP(-2))	0.065194	3.009792	3.003528
D(WFP(-3))	0.037584	2.014794	2.014167
D(WFP(-4))	0.039896	2.137455	2.135364
C	0.018207	1.367968	

Source: Author's Computation

Based on the results of the multicollinearity test in Table 4.10, it can be seen that the Centered VIF values for each variable are below 10, which means there is no multicollinearity problem in the research data analysis. More specifically, multicollinearity occurs when independent variables are highly correlated with each other, which can lead to unstable coefficient estimates and difficulties in interpretation. However, since all VIF values are less than 10, the correlations among the independent variables are within an acceptable range. Therefore, the regression model can be considered reliable and well-specified, as each independent variable contributes distinct information in explaining the dependent variable without significant distortion caused by high intercorrelation.

4.4 Granger Causality Test

The Granger Causality Test is conducted to determine whether two variables have a reciprocal relationship. In other words, it examines whether one variable has a significant causal relationship with another variable.

Table 4.11 Granger Causality Test Results

Null Hypothesis	Obs	F-Statistic	Prob.
D(UNDP) does not Granger Cause D(GDP)	31	2.71170	0.0852
D(GDP) does not Granger Cause D(UNDP)		0.60806	0.5520
D(UNFPA) does not Granger Cause D(GDP)	31	2.68206	0.0991

D(GDP) does not Granger Cause D(UNFPA)		0.31937	0.7294
D(UNICEF) does not Granger Cause D(GDP)	31	1.24460	0.3047
D(GDP) does not Granger Cause D(UNICEF)		0.27897	0.7588
D(WFP) does not Granger Cause D(GDP)	31	2.26694	0.1237
D(GDP) does not Granger Cause D(WFP)		1.52840	0.2357
D(UNFPA) does not Granger Cause D(UNDP)	31	1.80391	0.1847
D(UNDP) does not Granger Cause D(UNFPA)		0.69445	0.5084
D(UNICEF) does not Granger Cause D(UNDP)	31	0.21881	0.8049
D(UNDP) does not Granger Cause D(UNICEF)		0.53714	0.5908
D(WFP) does not Granger Cause D(UNDP)	31	1.71681	0.1994
D(UNDP) does not Granger Cause D(WFP)		1.94805	0.1628
D(UNICEF) does not Granger Cause D(UNFPA)	31	0.13152	0.8773
D(UNFPA) does not Granger Cause D(UNICEF)		0.24218	0.7867
D(WFP) does not Granger Cause D(UNFPA)	31	0.03967	0.9612
D(UNFPA) does not Granger Cause D(WFP)		0.04275	0.9582
D(WFP) does not Granger Cause D(UNICEF)	31	0.01123	0.9888
D(UNICEF) does not Granger Cause D(WFP)		0.30250	0.7415

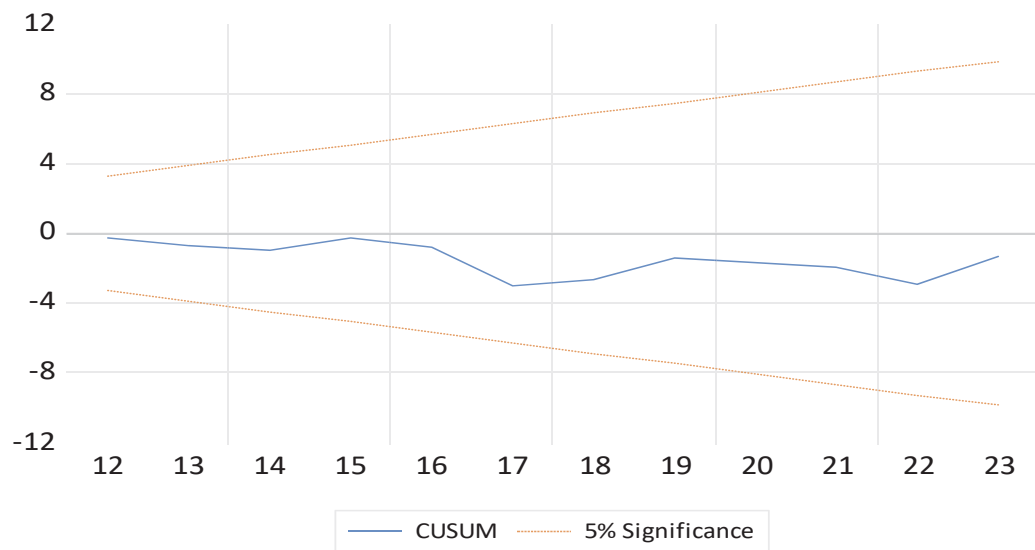
Source: Author's Computation

From the results of the Granger Causality Test, it is concluded that there is no bidirectional relationship between the variables tested. That is, there is no significant causal relationship between one variable and another. This means that, statistically, past information about one variable does not help predict present information about the other variable beyond the extent to which present information about the latter variable is already predicted by its own past information. Thus, no unidirectional or bidirectional causality is found between the variables at the given lag order. These findings indicate that the variables tested do not exert a predictive influence on one another in any measurable sense, and any association between them may be due to some external influence or a fortuitous trend. Hence, the lack of Granger causality suggests that more variables and/or different model specifications might be necessary to capture the true economic relationships.

4.5 Model Stability Test

This study uses a structural model stability test with the Cumulative Sum of Recursive Residuals (CUSUM). The stability test is used to determine the stability of parameters in both the short and long run. The model is considered stable if the blue line does not cross the red boundary line. The results of the CUSUM test are presented below.

Figure 4.6. CUSUM Test



Source: Author's Computation

Based on the CUSUM test results, the plot of the recursive residuals (W_r) does not cross the boundary lines at the 5% significance level and forms a linear path. These model stability test results indicate that the regression coefficients are stable and maintain the same hypothesis from a long-term perspective.

4.6 Statistical Tests

The statistical tests in this study include the determination test (R^2), the F-statistic test (simultaneous effect), and the t-statistic test (partial effect).

4.6.1 Determination Test (R^2)

The coefficient of determination (R^2) is used to determine the degree to which the independent variables incorporated in the model explain the variation in the dependent variable. Based on the estimation output and Appendix 12, the R^2 is 0.840217, and the adjusted R^2 is 0.627173. This means that 84.02% of the changes in

GDP are explained by the independent variables, which are the various types of foreign aid being given by UNDP, UNICEF, UNFPA, and WFP. The remaining 15.98% of the variation in GDP is explained by other factors not included in the model, such as domestic economic conditions, government policies, investment levels, political stability, and other macroeconomic variables. Moreover, the adjusted $R^2 = 0.627173$ (62.72%) shows the explanatory power of the model after the number of explanatory variables is taken into account. However, the gap between the R^2 and the adjusted R^2 reflects the relatively high number of regressors estimated on a limited number of observations ($n = 34$), so the results should be interpreted with due caution.

4.6.2 F-Statistic Test

The F-statistic test is used to assess the significance of the combined effects of independent variables on the dependent variable. This is judged on the p-value indicated in the F-test table. If the p-value is less than the significance level ($\alpha = 5\%$), it indicates that the independent variables as a group have a statistically significant effect on the dependent variable. The results from the short-run and long-run estimation indicate that the F-statistic value is 3.943869 and the p-value is 0.010302 ($p < 0.05$), so the null hypothesis (H_0) is rejected, suggesting that the independent variables in total have a statistically significant effect on the dependent variable.

4.6.3 t-Statistic Test

The t-statistic test is applied to assess the individual (partial) influence of each independent variable on the dependent variable. This evaluation is based on the p-value reported in the t-test results. When the p-value is below the significance threshold ($\alpha = 5\%$), it indicates that the respective independent variable has a statistically significant effect on the dependent variable. The outcomes of the t-statistic test for both the short-run and long-run estimations are displayed in Tables 4.6 and 4.7. In these tables, p-values lower than 0.05 are interpreted as statistically significant, whereas p-values exceeding 0.05 are regarded as not significant.

4.7 Regression Results with Control Variables

This discussion examines the role of different types of foreign aid directed at the economy via UNDP, UNICEF, UNFPA and WFP in the change of GDP. Several control variables are utilized in the model as well, including exports, Foreign Direct Investment (FDI), and COVID-19, which are discussed below:

Table 4.12 Regression Results with Control Variables

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Information
UNDP	0.229298	0.203134	1.128804	0.2693	Not Significant
UNFPA	0.170802	0.277894	0.614629	0.5441	Not Significant
UNICEF	0.128968	0.371361	0.347286	0.7312	Not Significant
WFP	-0.417941	0.232933	-1.794258	0.0422	Significant
EXPORTS	0.053029	0.480606	0.110338	0.9130	Not Significant
FDI	-0.145499	0.221805	-0.655978	0.5176	Not Significant
COVID-19	0.126094	1.109790	0.113620	0.9104	Not Significant
C	-0.018606	0.233694	-0.079616	0.9372	Not Significant

Source: Author's Computation

$R\text{-squared} = 0.250832$ $Adjusted\ R\text{-squared} = 0.049133$ $F\text{-statistic} = 1.243597$ $Prob(F\text{-statistic}) = 0.315782$ $Durbin\text{-Watson}\ stat = 1.483276$

The estimation results in Table 4.12 examining the impact of foreign aid allocated through UNDP, UNICEF, UNFPA, and WFP as independent variables, along with exports, Foreign Direct Investment (FDI), and COVID-19 as control variables, on Gross Domestic Product (GDP), reveal that the F-test produces an F-statistic of 1.243597 with a p-value of 0.315782. Because the p-value is greater than 0.05, it suggests that, collectively, the independent and control variables do not exert a statistically significant influence on GDP.

Moreover, the results of the control variables in Table 4.12 indicate that exports and COVID-19 have a positive impact on economic growth in Afghanistan, while FDI has a negative effect on economic growth in Afghanistan.

4.8 Discussion

The findings on the empirical estimation of the impact of disaggregated foreign aid on the growth of the economy in Afghanistan during the 1990-2023 sample period are fully discussed in this section. The analysis is organized according to three main

themes, namely: the trends and dynamics of foreign aid flows, the role of aid on GDP per capita, and the difference between short-run and long-run effects of each type of assistance provided by UNDP, UNICEF, UNFPA, and WFP.

4.8.1 The Pattern and Evolution of Foreign Aid Flows to Afghanistan over the Period from 1990–2023, Particularly Across Major UN Agencies

The descriptive statistical results show that in Afghanistan for the years 1990–2023, UNICEF provided the most aid in terms of average, followed by UNDP, WFP and, to the least extent, UNFPA. This is indicative of a strong emphasis on social and humanitarian issues, especially child protection, basic education, reproductive health and emergency food assistance in the provision of international assistance.

WFP assistance, however, has the highest relative variability, with a large standard deviation. This indicates that food assistance movements are very sensitive to emergency situations — rising on the back of emergency and dropping when relatively more stable situations occur. Focusing on food security and emergency response, WFP's mandate is consistent with this pattern, especially in fragile and conflict-affected countries like Afghanistan.

The estimation results for the ARDL are also supportive of this trend, as only WFP has a statistically significant short-run effect on GDP. The implication of this finding is that there is a direct, immediate impact of food assistance on output, mainly through its impact on household consumption and government expenditures. In crisis situations, food assistance can bring economic shocks to a standstill by supplying vulnerable households with in-kind food and keeping their purchasing power positive in the face of shocks, which in this way could minimize further output decreases.

This finding is in line with earlier investigations that highlight the stabilizing effect of humanitarian assistance in the immediate term. Food assistance in particular acts as a consumption-smoothing tool, helping households to avoid a drastic cut down in consumption or the sale of productive assets during crises or shocks. Thus, a degree of short-term production capacity and labour productivity is preserved, particularly in fragile economies like Afghanistan.

By contrast, the average aid level for UNICEF and UNDP is higher, but neither of these exhibits a statistically significant short-run impact on GDP. This is not to say

it is ineffective, but rather reflects differences in modalities and time scales. UNICEF activities, centered on education, child health and social protection, mainly contribute to economic development in the long run through the accumulation of human capital. Likewise, in governance, institutional strengthening, and capacity development, the impacts of UNDP interventions on growth are likely to occur over a longer time horizon, as institutional quality and productivity increase.

This is in line with endogenous growth theory, which assumes that long-run economic growth is mainly attributed to the accumulation of human capital and the improvement of institutional quality, leading to an improvement in total factor productivity (TFP). But such structural influences cannot be readily observed in short-run macroeconomic models such as ARDL, which reflect dynamics within a year or short time frame.

The results indicate that only WFP significantly affects the short-run result, which corresponds to the aid heterogeneity hypothesis, which claims that foreign aid does not have a homogeneous effect; it depends on its nature, sectoral distribution, and the structural characteristics of the recipient country. Because of the informal economy, subsistence agriculture and lack of industrialization in Afghanistan, the effect of consumption-based aid is faster on aggregate output than that of institutional or development-oriented aid.

Political uncertainty further compounds the problem of aid effectiveness in the short-term horizon. In times of uncertainty, private investment is limited, and humanitarian aid becomes an even more significant factor in securing economic stability than driving structural change.

With this perspective, the history of Afghanistan's aid can be split into three periods: (1) 1990-2001, the period of local conflict and limited humanitarian assistance; (2) 2002-2014, when the amount of development assistance was significant due to international intervention; and (3) 2015-2023, the transition period with declining aid inflows and increased political uncertainty, especially following international troop withdrawals and the 2021 regime change. In those years, Afghanistan became one of the world's most aid-dependent economies, with the share of aid exceeding 40% of GDP at times (World Bank, 2023).

This is consistent with the idea of aid dependency proposed by Moss, Pettersson and van de Walle (2006), that receiving ongoing and high levels of external aid tends towards long-term structural dependency. Overall, the findings of this study highlight three key insights. First, UNICEF has the largest share on average of the allocated aid, while WFP has the largest share of impact on economic performance in the short run. Second, humanitarian aid has an important part to play in short-term economic stabilization, maintaining consumption and preventing a significant loss of output. Third, the time horizon of the macroeconomic impact of development-oriented aid in the pursuit of structural change is longer.

The results indicate that an effective development approach in Afghanistan would involve both short-term humanitarian support and long-term productive development policies. Food aid is still needed for short-term economic stability, while growth in productive sectors, strengthening of institutions and enhancing the quality of productive human capital are needed for long-term growth.

Hence, H1: The short-run effects of aid differ across UNDP, UNICEF, UNFPA, and WFP is supported. Moreover, these results align with the Two-Gap Model and Financing Growth Theory, which states that there are basic constraints to development in developing countries, namely, a gap in savings and a gap in foreign exchange. Moreover, the theory supports the pattern and evolution of foreign aid flows to a country when domestic savings are insufficient to finance the level of investment required to achieve the desired economic growth.

4.8.2 The Impact of Foreign Aid on Economic Growth in Afghanistan, as Measured by GDP per capita

Based on the results of this study, it was found that the effect of foreign aid does not strongly influence the economic growth of Afghanistan when GDP per capita is considered as a proxy indicator of economic growth. The transmission channels from foreign aid to economic growth, which involve an increase in government spending, an increase in public investment, and an increase in household consumption, as suggested in theory, are not fully effective in the Afghan context, as the empirical results show.

Results in the literature are mixed with respect to the effectiveness of foreign aid. The findings obtained by this study are comparable with those of Burnside & Dollar (2000), who state that the effectiveness of aid is dependent on having good macroeconomic policies. The results also corroborate Easterly (2003), who argues that poor institutions, bad governance and policy distortions have a significant negative effect on the ability of foreign aid to contribute to sustainable economic growth.

In Afghanistan, the long-term growth-enhancing effects of aid have been held back by ongoing political instability, low institutional capacity, volatile aid inflows and high dependence on external aid. For this reason, foreign aid has mainly served as a short-term stabilizing tool instead of a tool for productivity and structural change.

This interpretation is also grounded in history. Foreign aid to Afghanistan between 2002 and 2012 helped the Afghan economy achieve double-digit growth primarily through investments in infrastructure, growth of the service sector and government spending. But this growth could not be sustained in the long term. Since 2014, there has been a sharp decrease in economic growth, and aid inflows have decreased while political uncertainty has risen.

In addition, the International Monetary Fund (IMF, 2022) indicates that the sharp economic decline after 2021 stems from the strong reliance of the Afghan economy on foreign aid. It further supports the claim that aid has led to significant immediate economic gains, but structural vulnerability and long-term dependency have set in. Additional support for this interpretation is found in the aid dependency literature. Structural dependency can lead to weak domestic revenue mobilization and institutional development if external aid is given for too long in post-conflict states, write Moss, Pettersson and van de Walle (2006). This view also helps to explain why foreign aid has not yet led to sustainable, long-term economic growth in Afghanistan.

The bottom line is that while foreign aid is also of importance for short-term macroeconomic stability, the evidence shows that it has a limited impact on the economic growth of Afghanistan in the long run, given the structural, institutional, and political constraints.

Given that the bounds test indicates joint cointegration but none of the individual long-run agency coefficients (UNDP, UNFPA, UNICEF, or WFP) is statistically significant, H2 ("Disaggregated aid from UN agencies has a significant

long-run relationship with GDP per capita") is only partially supported: the study finds evidence of long-run cointegration among the variables as a group, but no statistically significant agency-specific long-run coefficient. This is consistent with the emphasis of endogenous growth theory on the accumulation of physical capital, human capital, knowledge, and technology as long-term growth stimuli; however, the present data do not allow this study to confirm, at the level of individual UN agencies, that any one channel (UNDP capacity-building, UNFPA health investment, UNICEF human development, or WFP emergency assistance) has a statistically demonstrable long-run effect on Afghanistan's economic growth.

4.8.3 The Different Types of Foreign Aid, as Delivered by UNDP, UNICEF, UNFPA, and WFP, Exert Heterogeneous Short-Run and Long-Run Effects on Economic Growth in Afghanistan

The findings from the ARDL estimation suggest that foreign aid in Afghanistan has differential effects on economic growth according to the type of foreign aid and the time horizon of foreign aid effects. Specifically, the results indicate that foreign aid's overall impact is not always statistically significant across all specifications used, implying that the impact of aid on growth is extremely dependent on the type of aid received and the level of institutional development in the recipient nation.

This is in line with the theoretical categorization of foreign aid as productive aid, social sector aid, and humanitarian aid. Productive aid, usually given as infrastructure investment and institutional support (typically via a channel like UNDP), is supposed in theory to benefit the long-run growth process by raising institutional quality and aggregate factor productivity. Results from the ARDL, however, show that the productive impacts of aid are only weakly significant in the short run, but they may become more apparent in the long run, suggesting that the effects of aid on growth are time-variant. This is in line with studies by Burnside & Dollar (2000) that make the quality of policy and institutions fundamental to the effectiveness of aid. The ability of productive aid to help people, however, can thus be delayed in Afghanistan, in light of the overwhelming institutional restrictions.

By contrast, social and humanitarian aid seem to have a more immediate but less durable impact on economic growth. The ARDL short-run results suggest that the

direct impact of humanitarian assistance, especially emergency assistance like that provided by WFP, is statistically significant in the short run, and important for stabilizing consumption during periods of economic shock, even though it strengthens the argument that a major impact of humanitarian assistance is on the overall level of demand, rather than on productive capacity.

In contrast, social sector services are not yet visible in the short-term results with economic growth, indicating there is a longer time horizon needed to see the results of investments in education and health. This aligns with OECD (2019), which emphasizes that, in general, aid to the productive sectors is more growth-elastic than humanitarian aid.

But, the ARDL long-run estimates indicate that with better institutional stability, foreign aid, especially productive and social sector aid, can have positive effects on economic growth. This is in line with the endogenous growth framework, in which the accumulation of human capital, the development of infrastructure and improvement of institutional quality are important contributors to the long-run performance of the economy. However, it goes without saying, the low or insignificant level of some of the aid components in the short run also corroborates Easterly (2003), who argues that weak governance and implementation capacity can have a detrimental effect on the effectiveness of aid.

The concept of absorptive capacity also provides another reason for the heterogeneous short-run impacts of UN aid from different categories. The effect of foreign assistance on growth is not solely a function of the amount of aid received, but also of countries' institutional efforts to manage and effectively deploy external resources (Collier & Dollar, 2002). Beyond a certain point, when aid inflows are greater than the administrative, financial and technical means of public institutions, the effects of aid are likely to be less positive, which lessens the direct impact of aid on economic growth. Experience in Afghanistan is illustrative of the challenges involved in effectively using development support in a country with a long history of conflict, political instability, low public administration capacity and low implementation capacity. Therefore, the small and low value of the short-run coefficients of the ARDL model may be interpreted as reflecting institutional constraints, not as the ineffectiveness of aid in itself.

Moreover, the differential effects at the meso-level of various UN agencies are also a consequence of differential institutional mandates and development goals. UNDP's support is mainly for governance reform, institutional development and capacity building, the economic benefits of which tend to materialise gradually, once major institutional changes have occurred. UNICEF and UNFPA, on the other hand, focus on spending in education, child welfare, maternal health and population development, which are all investments in human capital that tend to yield economic returns over the medium and long term. In the meantime, WFP's assistance is largely humanitarian, striving to secure food security, prevent famine and stabilize household consumption during crises, rather than actually encouraging productive investment. Such differences are in line with endogenous growth theory, which focuses on the cumulative productivity gains that arise from investments in human capital, institutional quality and technological capability that lead to continuous growth of the economy (Barro et al., 2013).

The empirical results also lend support to the institutional economics argument put forth by Acemoglu & Robinson (2012) that inclusive and effective institutions are a necessary precondition to translate external resources into sustainable economic growth. Foreign aid can be used to support infrastructure, public services and social development, but if governance is not accountable, public financial management is not effective and institutions are not transparent, a large share of foreign aid may not contribute to long-term productivity. The heterogeneous short-run effects found in this study suggest that the effectiveness of aid depends on institutional quality, while the positive long-run relationship suggests that aid can have a positive developmental impact in the productive and social sectors over time, contingent on institutional quality.

The results also suggest that future aid allocation policies should focus not only on the amount of aid, but also on the sectoral mix of aid, and that it should be rendered complementary to institutional reforms. Investments in strengthening public institutions, governance capacity, and increasing productive infrastructure, while continuing humanitarian assistance as a means to protect vulnerable groups during crises, should be the focus of development partners. A balanced strategy like this would strengthen the absorptive capacity of the Afghan economy and make it more

likely that foreign aid would result in permanent gains in long-run economic growth and GDP per capita.

Overall, the ARDL results confirm that the impact of foreign aid on economic growth in Afghanistan is heterogeneous and time-dependent. While humanitarian aid contributes mainly to short-term economic stabilization, productive and social sector aid demonstrate more potential in the long run, although their effectiveness is constrained by institutional and governance limitations. This finding reinforces the argument that the effectiveness of foreign aid is not determined by its magnitude, but by its composition, absorptive capacity, and the institutional environment of the recipient country.

Hence, H3: Humanitarian-oriented aid exhibits stronger short-run effects than long-run effects is supported. Moreover, this result aligns with the Two-Gap Model and Financing Growth Theory, which states that foreign aid stimulates short-term economic stabilization and recovery effects due to the solution of the gap in foreign exchange and savings. Humanitarian assistance is thus more likely to reach the scale necessary to tackle crises, like food shortages, conflicts and disasters, and will have less impact on long-term growth if it is not paired with productive investment and institutional development.

CHAPTER V

CONCLUSION, POLICY RECOMMENDATION, LIMITATIONS

This study examines how disaggregated foreign aid has contributed to economic growth in Afghanistan in the years 1990-2023 using the Autoregressive Distributed Lag (ARDL) model. In comparison to traditional studies that assume that foreign aid is a single aggregated flow, this research differentiates aid based on the major United Nations agencies: UNDP, UNICEF, UNFPA, and WFP.

5.1 Conclusion

This study reveals that the overall impact of foreign aid on the Afghan economy, as measured by GDP per capita, is not uniform. Foreign aid has little statistically significant effect on long-term economic growth overall, which means that the overall contribution to GDP per capita is weak. The results also indicate some key categories of aid, however, that are important in terms of variation. Of particular interest, assistance from the World Food Programme (WFP) has a statistically significant but time-varying short-run relationship with economic conditions, where the contemporaneous relationship is negative, as would be expected of a consumption-oriented, humanitarian assistance provider, and the four-year lagged relationship is positive. This means that the short-term impact of WFP assistance is not always positive and/or negative, and that positive short-term linkages do not necessarily lead to a statistically significant long-term linkage with growth. Hence, foreign aid should not be understood as a single factor of economic growth, but as one that depends on context in terms of time horizons and institutional sources of foreign aid.

The ARDL results for the short run show that disaggregated aid from UNFPA has a positive and statistically significant influence on GDP per capita. The results indicate that interventions in health and population programmes can help shape human capital and improve economic performance in the short term. In contrast, WFP assistance (which is mostly humanitarian and consumption-oriented) shows a negative short-term association with growth, which means that emergency food assistance is more associated with crisis situations than productive investment. These findings all suggest that foreign assistance to Afghanistan is sensitive to the type, timing and

institutional pathway of the aid. The results partially corroborate previous studies that suggest that the impact of aggregate aid can be mixed and/or modest on growth, particularly for fragile and conflict-affected countries, whereas sector-specific and human-capital-focused aid can have more tangible effects. Meanwhile, the Afghanistan experience demonstrates that too great a dependence on external aid and frequent political and security crises curtail the ability of aid to replace domestic structural reforms and institution development.

5.2 Policy Recommendation

From the results of this study, the following recommendations are directly related to the empirical findings. The analysis indicated differential agency-level impacts, and limited evidence of long-term growth impacts, suggesting that focus should be placed on strengthening the effectiveness, coordination, and institutional quality of agency-level programmes, rather than on the quantity of foreign assistance:

1. Make development-oriented UN assistance a priority. United Nations development assistance should be allocated to strengthen public institutions and governance, education, health, and institutional capacity in a strategic manner, according to the comparative mandates of UNDP, UNICEF, UNFPA, and WFP in Afghanistan.
2. Strengthen governance and aid absorptive capacity. To enhance the effectiveness of foreign aid, policymakers should improve governance and absorptive capacity through better budget planning, project monitoring, and transparency mechanisms. Strengthening these institutional frameworks can help ensure that external resources are utilized more efficiently and generate greater developmental outcomes.
3. Link humanitarian assistance with development programs. Although relief aid is necessary to meet immediate needs in situations of emergency, it needs to be accompanied by development-oriented support for livelihoods and productive activities. This strategy can help break the cycle of dependence on aid and ensure that economic development is sustainable.
4. Promote continuous monitoring and evaluation of aid effectiveness. Given the limitations of the data and the country-specific nature of the findings,

policymakers should regularly monitor and evaluate aid-funded programs. Continuous assessment can provide evidence-based guidance for future aid allocation and help ensure that policy decisions remain responsive to changing economic and institutional conditions.

5.2.1 Agency-Specific Policy Recommendations

1. UNDP needs to keep on strengthening its institutional capacity building efforts, governance reforms, employment creation and sustainable economic development programmes. Better linkage with the national development agenda can increase the impact of development aid in the long run.
2. UNICEF needs to improve investments in children's health, education, nutrition and social protection. These interventions have a lasting impact on human capital development, thereby contributing to sustainable economic growth.
3. UNFPA should continue to provide assistance in the field of reproductive health services, maternal health services, and population planning, especially in rural areas with less access to services. Better health outcomes have a direct and indirect contribution to labour productivity and economic development.
4. A livelihood restoration, food security and resilience-building programme needs to be progressively integrated into emergency food assistance programmes to minimize reliance on emergency assistance, especially during humanitarian crises.
5. The Government of Afghanistan should further strengthen coordination between UN agencies to improve the complementarity between humanitarian assistance and national development strategies and priorities.

5.3 Limitations

It is important to present the limitations of this study more explicitly and candidly, as doing so enhances the academic credibility of the thesis by clearly acknowledging the limitations of the analysis.

1. A major disadvantage of the small sample size is that it decreases the statistical significance of the econometric model and limits the robustness of the

estimated results and their stability. It may also be more affected by small variations in the data set given the limited number of observations.

2. There is a possible endogeneity problem for foreign aid and economic growth, which means that the connection can be bilateral. Foreign aid may impact a nation's economic growth, but economic performance may also influence the level of foreign assistance a nation receives. Without complete resolution, this can lead to bias in the estimated coefficient values.
3. Data quality constraints are a serious problem in Afghanistan. Because of long-running conflict and institutional limitations, the data available may be incomplete, inconsistent or less reliable, which may impact the validity of empirical findings.
4. Structural changes due to war, conflict and regime changes can affect long-run relationships between variables. Political and economic changes can change economic dynamics drastically, which may not be modeled by standard econometrics.
5. The results of the study are not easily transferable to other developing countries, as Afghanistan's socio-political and economic situation, with its longstanding conflict context, is unique and specific.
6. While the ARDL method allows for dynamic relationships and mixed orders of integration, it does not rule out the potential endogeneity that may be present because of possible reverse causality between foreign aid and economic growth. Therefore, future studies may employ instrumental variable techniques or GMM estimators to further examine causal relationships.
7. This study did not construct a Pearson correlation matrix for the explanatory variables; multicollinearity was instead assessed using Variance Inflation Factors (Table 4.10). A correlation matrix would provide complementary, more direct evidence of pairwise linear association and is recommended as part of any future revision or replication of this model.
8. The empirical model does not include a separate political regime-change or structural-break dummy for 2001 (the Bonn Agreement / post-Taliban transition) or 2021 (the political transition and shift toward humanitarian aid). Only a single COVID-19 dummy (2020–2023) is included. Given

Afghanistan's documented structural breaks around these years, incorporating 2001 and 2021 dummy variables, or formal structural-break tests (e.g., Bai-Perron), would strengthen the robustness of the short-run and long-run estimates, and is left for future work.

9. s This study does not include a dedicated empirical treatment of the Human Development Index (HDI) alongside GDP per capita. While human-capital channels are discussed theoretically (Chapter 2), GDP per capita is used as the sole outcome measure; incorporating HDI or its sub-components as an additional or alternative dependent variable would allow the study to distinguish economic growth from broader human-development outcomes, and is recommended for future research.

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