The Impact of Foreign Aid on Economic Growth in Palestine: An Empirical Evidence

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Authors’ contributions

This work was carried out in collaboration between both authors. Author NB managed conceptualization, data curation, formal analysis, methodology, investigation, methodology, visualization, original draft writing and resources. Author MA managed conceptualization, methodology, resources. Authors NB and MA supervised, wrote, reviewed and edited the manuscript. Both authors read and approved the final manuscript.

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ABSTRACT

This study examines the Impact of Foreign Aid on Economic Growth in Palestine by considering time series data of the last twenty years from (2000-2019). Foreign Aid’s Impact on the Palestinian Economy explored with the Gross Domestic Product (GDP) as the dependent variable against few selected independent variables such as Foreign Aid, Remittance, Investment, Labour Force and Lagged (GDP). This study used the Partial Adjustment Model to analyze the Impact of Foreign Aid on Economic Growth in Palestine and also applied the (Chow Test) to examine whether there was a Structural Breakthrough in the Palestinian Economy. The results indicate that Foreign Aid has a positive relationship with (GDP). However, the relationship is not significant since the higher volume of Foreign Aid used in Humanitarian and Social Welfare rather than Production Activities in the real sectors. (Chow Test) shows that the relationship between Foreign Aid (GDP) has not witnessed a Structural Breakthrough in the Palestinian Economy over the past twenty years. In light of these empirical results, we suggest that Government Policy-Makers and Decision-Makers allocate this...
Foreign Aid to Productive Sectors and Human Capital formation (HC) activities with a special focus on capital expenditures to achieve a high rate of the country’s Economic Growth and Development and to meet the periodic plan and Long-Term Development goals.

**Keywords:** Foreign aid; remittance; investment; labour force; partial adjustment model; economic growth; human capital; Palestine.

**JEL Classification:** E44, F21, F35, F36, F41, G17, O16.

1. **INTRODUCTION**

Foreign Aid to Developing Countries has been an important source of financing for Development in the form of Grants and soft Loans for Development projects and assistance to meet humanitarian needs and emergencies for more than half a century.

In the last sixty years, Donors Countries have provided more than (2.3) trillion USD in Foreign Aid to Poor Countries for their Development Activities. Since obtaining this huge amount of Foreign Aid, more than (3) billion people still live on less than ($2) a day. And (840) million suffer from hunger and poverty, (10) million children die from various types of preventable diseases, and (1) billion adults are still without work [1].

Moreover, Palestine is one of the Middle East Countries most supported by the Donors Countries, with an estimated population of (5.1) million in (2020) and a Growth rate of (1.6) per cent annually [2]. Palestine is a predominantly youthful rural, rural community, with (61%) of them mainly living in densely populated villages [3].

Besides, the Palestinian Economy considered a livelihood Economy that depends heavily on Agriculture, local and light Manufacturing Industries, which in turn depend on the Fluctuations of Nature [4].

Moreover, more than (62) per cent of the population depends on this Agricultural and Industrial Sector to earn their livelihood, in addition to Government Employment. Agriculture accounts for nearly half of the Gross Domestic Product and more than (77) per cent of export earnings [3].

However, the share of Agriculture is declining steadily at present, while the share of the services sector in Gross Domestic Product has been on the rise in recent times.

On the other hand, the share of the Manufacturing Sector is relatively stable and ranges (22-26) per cent only [4].

Moreover, the amount of Foreign Financial Aid provided to Developing Countries in general and Asian and African Countries, in particular, has been increasing from time to time. In Asia, the share of Official Development Assistance (ODA) in Gross Domestic Product (GDP) has increased significantly over the years, increasing dramatically from (1.3) per cent in (2000-2005) to (2.6) per cent in (2010-2011) to (7.6) per cent and in (2012-2013) it reached to (11.2) per cent in (2015-2016) [1].

Besides, the share of Foreign Aid in (GDP) increased to (26%) during the (2017-2020) fiscal years. In Palestine, the Economy’s high import intensity, limited capacity to produce Capital Goods, low levels of Domestic Savings and limited capacity to generate Foreign Exchange make Development Efforts exceed Domestic Capacities, all of these factors seemingly providing an objective justification for the massive influx of Foreign Aid [3,4].

Palestine has been one of the Aids receiving country Aid for more than sixty years through Foreign Governments, World Bank, Multilateral Agencies and (INGOs), collectively referred to as External Developmental Partners (EDPs) [5].

(EDPs) have been involved in Palestine’s Policymaking, Program Design, and Implementation in a range of areas, among the Middle East Countries, Palestine is one of the highest Aid receiving nations [4].

During the period (2000-2019), Foreign Aid to Palestine, as a percentage of the (GDP), averaged (8.68%) higher than that of Jordan and Syria, Lebanon who received (3.06%) and (2.09%) respectively during the same period [6].

Despite the constant Flow of Foreign Aid and decades of Aid-Financed Development efforts in
Palestine, it remains one of the Poor Countries in the world, with a per capita income of about ($752) and almost (23.8%) of the total population living in absolute poverty [2].

From these facts, the casual observer can easily conclude that Foreign Aid to Palestine has been ineffective even though they will not be able to foresee what would have happened in the absence of this Aid [7,8].

Moreover, the main question that both Donors and recipient countries have to address is whether this aid has any Impact on Economic Growth in Developing Countries. Looking at the record over sixty years, trillions of the amount of Foreign Aid provided from Donor Countries [9]. However, its Impact on Economic Growth is minimal compared to the large sums that come from Aid Flows. This issue was approached from various other angles in order to be dealt with. However, there is no single, definite answer [10].

Therefore, it is important to note the amount and type of Financial Aid that affects the effectiveness and movement of funds available in these Developing Countries [11,12].

The literature on the Impact of such Financial Aid on Economic Growth indicates that it is mainly present in the Cross-Sectional Economic Analysis of Developing Countries [13,14].

Besides, Most of these Cross-Sectional Analyzes indicate that the Growth effects of Foreign Aid differ for different countries that indicated the need for a pilot study for each country [15].

In particular, in the Palestinian case, the number of studies conducted to date is limited in number, scope and time, which require further studies. Hence, this study will attempt to study the Growth effects of (ODA) by using a Growth Model for a Multivariate Co-integration Analysis. On a large scale, this study aims to assess the effectiveness of Foreign Aid in promoting Economic Growth in Palestine [5].

Specifically, this study tries to determine whether there are restrictions on the absorptive capacity of the Economy with the Flow of Foreign Aid [16]. Besides, it also attempts to determine whether the effectiveness of Foreign Aid depends on Global Policy or not and to determine the real Impact of this Foreign Aid on Palestinian Economic Growth [17].

2. LITERATURE REVIEW

The relationship between Foreign Aid and Economic Growth has drawn great attention for years, but the empirical results are mixed. There is now a large literature on the relationship between Aid and Growth. For a recent comprehensive survey of the theoretical and empirical literature on Foreign Aid and Growth see [18,19].

He investigated the correlation between Foreign Aid and Growth in per capita (GDP) using annual data from the (2000-2019) for a sample of (71) Aid-receiving Developing Countries. This study concludes that the impact of Foreign Aid on Economic Growth is positive, permanent, and statistically significant [20].

In the global context, they assessed the Impact of Foreign Aid on (68) Developing Countries throughout (1970-1993) and observed Foreign Aid has some positive Impact on Growth depending on the Macro Policy Environment [21]. They examined trends in official Aid to Africa over the period (1960-2002). The authors largely emphasize the tremendous decrease in Aid over the last decade, which will have an Impact on Africans living in poverty and the African Economy as a whole. As a result of the shortfall in Aid, the (MDGs) will be much harder if not impossible to be achieved. This study concludes that Aid in fact does promote Growth and reduces poverty [22].

Furthermore, it also positively Influences public sector aggregates, contributing to higher public spending and to lower domestic borrowing. Nevertheless, it is apparent that the (MGDs) cannot be achieved with Development Aid alone, but other innovative sources of Development Finance need to be explored as well [23].

He analyzed the effects of Aid Flows on key fiscal aggregates in Senegal. This paper utilizes data over the period of (1970-2000) and primarily focuses on the interaction between Aid and Debt [24]. The author determined three main outcomes of his study. First, that a large portion of Aid Flows, approximately (41%), are used to finance Senegal's Debt and (20%) of the government’s resources are devoted to Debt Servicing. Second, that the Impact of Aid Flows on domestic expenditures is statistically insignificant, and third that Debt Servicing has a significant negative effect on domestic
expenditure. Moreover, as a result, his paper suggests that Debt Reduction could become a more successful policy tool than obtaining additional Loans [23].

Argued that not much evidence established to support the belief that Direct Foreign Assistance (DFA) to countries with good (Policy) will increase the Impact on Growth or poverty reduction in Developing Countries [25].

The study revealed that Foreign Aid is beneficial to the Economic Growth of Developing Countries but the immediate and overall Impact of Aid on Growth differs in terms of magnitude. He measured the Development using the Human Development Index (HDI) of (120) countries with (HDI) value less than (0.800) in the year (2001) [26,27].

Explored the Aid Growth relationship in the Macroeconomic level of (48) Developing Countries covering the period (1970-1998) [28].

A similar study was conducted by Awartani, Al-Amad, [6] on (67) Developing Countries by using panel data from (1986-2005) and concluded that Aid has no positive effect on Economic Growth, however, it is positively related to corruption [29,30].

The findings revealed that Foreign Aid has a negative relationship with Development. The findings rather indicated that Foreign Direct Investment (FDI) and Domestic Investment plays a significant role in Development Countries [31].

They found that Foreign Aid; neither at the aggregate level nor disaggregates level; influenced Economic Growth in Syria [32] assessed the contribution of the European Union and USA Aid to the Palestinian Economy. It concluded that the overall contribution of Foreign Aid in Palestine was positive; however, less effective in aggregate [5]. The study found that Aid has a significant positive Impact in Jordan insignificant Impact in Lebanon a significant but negative Impact in Syria [9]. Besides, in the regional context, the Impact of this Foreign Aid to (25) Sub-Saharan African Countries during the current period (1970-2012) was exposed and examined through the static Impact Plate Model [33,34].

Moreover, these results indicated that this Foreign Aid has a significant and important Long-Term positive Impact on per capita Gross Domestic Product (GDP) in sub-Saharan Africa [24,26].

Besides, this study found that Aid in the form of the Grant found to be more effective in the Middle East Region; he examined the Long-Run causal relationship between Foreign Aid and Economic Development [35].

Financial Aid plays an important and effective role in the process of Economic Growth in the State and is based on Achieving Economic Recovery most of the times and raising the Growth rates of the Local Economy of the State, he explained that it is through that assistance that the state can raise the efficiency of Financial Policies and estimated budgets for the State and this leads to increased Economic Prosperity in the State [36].

They illustrated the effects of Foreign Aid and Financial Flows that come in the form of Financial Flows and their Impact on Economic Growth through the use of a (Cognitive Modeling) methodology to find out the effect of Capital Movement which is in the form of Foreign Aid, and this study that was previously published and a methodology knowledge presentation modelling confirmed the effectiveness of factors that affect Economic Growth. Moreover, the most important of which is the movement of Financial Capital and Financial Flows in the form of Foreign Aid, and they specifically used this to develop new recommendations for Decision-Makers regarding Foreign Aid, Financial Flows, Capital Flows, and their Impact on the Economic Growth of the country, in addition, the (Cognitive Modeling) has proven its effectiveness and credibility using statistical graphs, charts and scenarios that clarify the variables and values that have been inferred through the process of the Flow of this Foreign Aid and its Impact on Economic Growth, and also the Impact of capital and other factors common to each other in Economic Growth and Development [37,38].

They have shown the positive Impact of Foreign Direct Investment (FDI) on Economic Growth while few others have shown negative Impact or no Impact at all on Growth. The discussion and debate about the relationship between Foreign Aid and Economic Growth has attracted great interest for many years. For example, many studies have been available on the role of that Foreign Aid on Economic Development within the generally accepted International Context [39,40].
They pointed to the Impact of Financial Capital and International Capital Flows, and also included the effect of Foreign Aid on the Palestinian Economy [6], if these Financial Flows and Foreign Aid and its Flows in different directions inside and outside the country lead to clear Economic Progress and Economic Growth, the Foreign Aid plays an important role in the Economic Growth of the country, so that this Foreign Aid affects the National Economy and is a strong reason for the Palestinian Economic Renaissance at the National Economic level in general, and it supports the State’s Government Budget, and it consists of several forms, the most important of which are Foreign Direct Investment (FDI) that in turn leads to achieving rates Economic Growth in the country and develops its economy and strengthens its rules [41,42].

He studied a new methodology for the Flows of Financial Capital in the form of Foreign Aid from Donor Countries, besides, this methodology allows (Cognitive Modeling) learning and proving the Impact of Financial Capital, Foreign Aid and other factors that affect the Economic Growth of the country [43,44].

They explained with the proposed tools for Economic and Financial Problems and Development of Economic in Palestine, social strategies through theory and practice of operations, direct application, that the choice of policies for Economic Strategies for the optimal use of Foreign Aid, and the Aid of Donor Countries is an important economic factor, if they do not, it may effect on the direct skills on Economic Growth in general, and it is known that measuring the efficiency of the Economic Strategy against the efficiency of the Government itself determines the extent of the Impact of this Aid on the Growth of the country's economy, if the Government tests and evaluates the tools used to address and reduce the Economic Problems that negatively affect the country's economy, Strategies and Economic Tools, the proposed reduction in Social and Economic Problems, as this is considered one of the most important elements of Economic Growth and the continuity of internal Economic Prosperity [34,45].

He Studied and clarified the Impact of Financial Flows and other Financial Aid from Donor Countries on Economic Growth in Palestine in general, if this is explained and demonstrated in his study, Donors reported as losing confidence in Palestine because of political interference and corruption in poverty relief efforts as well as the country's poor capacity to utilize Aid [45,46]. Foreign Aid and Grants may impose many undesirable terms and conditions while Foreign Loans considered a burden for future generations. Besides, they crowd out the trade sector of the Economy [39].

Besides, it turns out that this Foreign Aid in terms of Grants and Loans is dealt with as a free lunch provided by Donor Countries, has no effect on Economic Growth, does not support countries' Economic Cover, does not raise the standard of living, and does not work to maintain justice among people [47,48].

However, there are many challenges and difficulties to maintain the current trend of Economic Growth in Developing Countries, as the high dependence of Economic Growth on many factors in a sufficient time [20], such as the country's exposure to strict trade conditions and similar External Economic Shocks, are inherently difficult structural constraints facing the economy [49].

3. OBJECTIVE OF THE STUDY

The prime and general objective of this study is to analyze and reveal the Impact of Foreign Aid on Economic Growth and Development in Palestine for the period (2000-2019) through qualitative and quantitative analysis of annual data as well as using the basic variables directly related to Foreign Aid and that have a strong impact and relationship on Economic Growth, empirically investigate the Long-Run and Short-Run Impacts of Foreign Aid on Economic Growth.

4. METHODOLOGY

4.1 Model Specification

The theoretical foundation of the proposed study based on a Growth Model, which considers GDP (Output) as a function of Capital and Labour, i.e.

\[ GDP = F(K, L, t) \]  \hspace{1cm} (Model 1)

This function considers productivity as total as a whole, which considers output as a function of capital (K) and Labor (L).

Therefore, capital can come from many different sources such as Remittances, Investment,
Foreign Aid, and other delayed Aid, Gross Domestic Product (GDP) while other Aid comes from the workforce [50].

The inclusion of time (t) in the following model is the transformation of the basic production function, which changes automatically over time. i.e. t=1, 2, 3, 4.

The selection of these Macroeconomic variables also based on the literature reviews and availability of the reliable data set in the published sources [2, 3, 4, 51].

The specification of the study model includes adjusting the available stock, which facilitates the estimation and evaluation of the speed of Adjustment in Gross Domestic Product (GDP) and the short and Long-Term flexibility.

The current model indicates that the required level of (GDP) has reached the actual and real (GDP) and a part of the change is known as the speed of Adjustment and Assessment [52,53].

On the other hand, the introduction of Lagged (GDP), as an independent variable in the current model, will help in estimating the short and Long-Term effects of the study variables and the speed of Adjustment and evaluation, meaning that the actual and real (GDP) Adjustment to the required level (GDP) by some of the existing factors is less than (λ).

The value of (λ) must also lie between one (1) and zero (0). This process will help in studying economies of scale in the use of available resources.

A Regression model can also be written as follows:

\[
\text{Log (GDP)}t = b0 + b1 \text{Log (Aid)}t + b2 \text{Log (Inv)}t + b3 \text{Log (Lab)}t + b4 \text{Log (Remit)}t + b5 \text{Log GDP}_{t-1} + \ldots + \text{Ut} \\
\text{(Model 2)}
\]

The modification parameter and variable are obtained from (b5), which implies (1-λ), and its value usually ranges between (zero and one) (0; 1). And (b.f) is Foreign Aid, (b2) is Investment, (b3) is Labor Force, and (b4) is Remittance Inflows, and (λ) is the speed of Adjustment and Evaluation.

The Long-Run Impact in all cases obtained by dividing the estimated (b’s by λ).

The Adjustment coefficient determines the relationship, which should exist between the short and Long-Run Impacts [54].

4.2 The Data Sources

Most of the studies are taking a short period for empirical analysis. In the case of the annual time series data used [55], the minimum data for these series (10-15 years) must be taken into consideration in order to capture the appropriate Long-Term trend between these variables in the study.

Therefore, this study aims to understand and evaluate the state of Foreign Aid based on the past twenty years of annual series data available, i.e. from (2000-2019) [56].

Since this study based on secondary data sources, the Economic surveys published by the Ministry of Finance and Planning (MoFP) and Ministry of National Economy (MoNE), the Palestinian Central Bureau of Statistics (PCBS), annual and financial reports of Palestine Monetary Authority (PMA) from the year (2000-2019) [51] are selected.

Moreover, all the relevant data for the study was available after the year (2009) thus, the sample period starts from this year [57].

5. RESULTS AND DISCUSSION

The production function, which determines the relationship between outputs and inputs as a whole, is the basic unit for measuring and evaluating the Impact of External Aid received at different times, in addition to External Aid, the other input variables included in the current job are Remittances (transfers as an indicator of workers’ Remittances), Investment (Investment as an indicator of Total Investment or gross fixed capital formation), and Labor Force (as a laboratory indicator for the age group) between (age group 10-20 years) as the term for an economically active population) [58,59], and Lagging behind (GDP) (such as the GDP indicator (-1) for a period of one year), all the variables in the study were converted into real, realistic and actual values at the same time (constant prices year (2006-2007) =100).

After completing this process, the values of the variables and the inputs are converted into their

\footnote{Aid is the indicator of Foreign Assistance, which is the sum of Foreign Grants and Foreign Loans.}
logarithmic forms mathematically. According to the first theoretical basis, (GDP) considered a variable, dependent input while all other variables, and inputs are used as independent variables and inputs for experimental analysis.

5.1 Size, Status and Direction of Foreign Aid

Foreign Aid is a very important component and factor in the process of Economic Growth, in addition to the social and Political Changes in Palestine since the beginning of the Economic Planning Exercises.

Foreign Aid is known as Official Development Assistance (ODA), which is directed through the National Budget in Palestine by the government, which constitutes Grants, Loans and other Technical Assistance by Bilateral and Multilateral Organizations. The share of Foreign Aid as a percentage of the total budget is decreasing over a period as shown in (Table 1).

The (Table 1) shows the data on five years span from (2000-2019) where the amounts all converted to constant prices thereby using the year (2006) as a base year.

It has observed that Foreign Aid has increased by (12.10) times since the year (2009). For a detailed study, Foreign Aid sub-divided into Foreign Grants and Loans where they increased by (5.10) times and (12.18) times respectively in the year (2019) as compared to the year (2009).

However, Foreign Aid with (GDP) has shown less significant change even though various fluctuations have occurred during this period. This might have arisen since, during this period, the amount of Foreign Aid directed from the Manufacturing Sector towards the Humanitarian Sector [60].

Moreover, the size of the Foreign Grants has declined to (0.02%) of (GDP) with an increment of Foreign Loans to (0.07%) of (GDP).

One of the most important reasons for this may be the mismanagement of Foreign Funds, which will lead to a sharp decrease in the confidence of the Donor Countries, which will lead to a decline in the rate of Economic Development and lower rates of Economic Growth on the other hand [61].

5.2 Commitment and Disbursement of Foreign Aid by Different Sources and Sectors

The highest amount of Commitment via Bilateral source was in (2016) while the lowest Commitment did in (2009) and the highest amount of Commitment via Multilateral source was in (2017-2018) while the lowest was in (2015).

On the other hand, the highest amount of Disbursement via Bilateral source was in (2017-2018) with (76%) & (56%) Disbursement of Commitment while the lowest amount of Disbursement was in the year (2011) with only (36%) as evident in (Table 2).

Similarly, the highest amount of Disbursement via Multilateral source was during the year (2016-2017) with (139%) of Disbursement of Commitment whereas the lowest amount of Disbursement was (31%) in the year (2000).

In the case of Bilateral Commitment, (100%) of the observed Commitment was not disbursed during any of the years of study, and while it was observed that more than (100%) was disbursed for the Multilateral Commitment during some years of study, especially in contracts from (2015s) and early (2018s).

The main reason for exceeding these payments (100%) is that it was the last year for the Disbursement of Aid for many Foreign and funded projects.

The direction of exchange considered from the fluctuating Commitment rate, as over a long period of time the interest shifted from the Production Sector to the Services Sector significantly and noticeably [62].

The rate of Exchange-Commitment to the Agricultural, Irrigation and Forestry Sector decreased in (2015) from (60.6%) to 66.9%), while the trend in Transport, Energy and Communications increased from (55.4% to 63.7%).

It can be seen that the priorities of Foreign Aid have shifted towards Social Services more (79.8%). Social Services include Rural Development, Water Supply and Irrigation, Education, Health and Other Services [63].
The figures from (Table 3) also demonstrate that there is no Commitment to Industry and Mining in years (2015-2016), (2017-2018) and (2019).

Sectors are merging and engaging each other for data consistency and convergence. From this, it can be explained that the preference for Commitment to and Disbursement of Foreign Aid has shifted from the Production Sector, Transport, Energy and Communications Sectors to the Non-Productive Sector, i.e. the Social Sector [64].

The contribution of Foreign Aid to (GDP) did not increase during this study period compared to other existing Macroeconomic variables. Moreover, since Foreign Aid alone does not contribute only to Economic Development [65], some other Major Economic variables have been included as factors and variables responsible for Economic Growth such as Investment, Remittances, Labor Force, Delinquency, and Large Development Loans from the World Bank, etc. Gross Domestic Product (GDP) [66] as presented in (Table 4).

Table 1. Size of Foreign Aid from Period (2000-2019) (in USD Millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Foreign Grant+Assistance</th>
<th>Foreign Loans</th>
<th>GDP (Factor Cost)</th>
<th>Foreign Grant+Assistance as % of GDP</th>
<th>Year</th>
<th>Foreign Grants+Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>510</td>
<td>520</td>
<td>4313</td>
<td>0.11</td>
<td>2000</td>
<td>510</td>
</tr>
<tr>
<td>2005</td>
<td>636</td>
<td>624</td>
<td>5125</td>
<td>0.12</td>
<td>2005</td>
<td>636</td>
</tr>
<tr>
<td>2010</td>
<td>1210</td>
<td>1043</td>
<td>9681</td>
<td>0.12</td>
<td>2010</td>
<td>1210</td>
</tr>
<tr>
<td>2015</td>
<td>796</td>
<td>1119</td>
<td>13972</td>
<td>0.05</td>
<td>2015</td>
<td>796</td>
</tr>
<tr>
<td>2017</td>
<td>720</td>
<td>1085</td>
<td>16128</td>
<td>0.04</td>
<td>2017</td>
<td>720</td>
</tr>
<tr>
<td>2018</td>
<td>664</td>
<td>1063</td>
<td>16276</td>
<td>0.04</td>
<td>2018</td>
<td>664</td>
</tr>
<tr>
<td>2019</td>
<td>492</td>
<td>1218</td>
<td>17058</td>
<td>0.02</td>
<td>2019</td>
<td>492</td>
</tr>
</tbody>
</table>


Table 2. Foreign aid commitment and disbursement by major sources

<table>
<thead>
<tr>
<th>Year</th>
<th>Bilateral Commitment (in USD Millions)</th>
<th>Multilateral Commitment (in USD Millions)</th>
<th>Total Commitment (in USD Millions)</th>
<th>Bilateral Disbursement (in USD Millions)</th>
<th>Multilateral Disbursement (in USD Millions)</th>
<th>Total Disbursement (in USD Millions)</th>
<th>Disbursement as per % of Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>396</td>
<td>420</td>
<td>816</td>
<td>226</td>
<td>148</td>
<td>374</td>
<td>48</td>
</tr>
<tr>
<td>2005</td>
<td>633</td>
<td>560</td>
<td>1193</td>
<td>515</td>
<td>486</td>
<td>1001</td>
<td>37</td>
</tr>
<tr>
<td>2010</td>
<td>789</td>
<td>756</td>
<td>1545</td>
<td>578</td>
<td>689</td>
<td>1267</td>
<td>33</td>
</tr>
<tr>
<td>2015</td>
<td>569</td>
<td>626</td>
<td>1195</td>
<td>662</td>
<td>774</td>
<td>1436</td>
<td>76</td>
</tr>
<tr>
<td>2017</td>
<td>721</td>
<td>782</td>
<td>1503</td>
<td>746</td>
<td>734</td>
<td>1480</td>
<td>43</td>
</tr>
<tr>
<td>2018</td>
<td>776</td>
<td>822</td>
<td>1598</td>
<td>798</td>
<td>913</td>
<td>1711</td>
<td>26</td>
</tr>
<tr>
<td>2019</td>
<td>842</td>
<td>916</td>
<td>1758</td>
<td>877</td>
<td>962</td>
<td>1839</td>
<td>46</td>
</tr>
</tbody>
</table>

Total 4726 4882 9608 4402 4706 9108 38 62 51


Table 3. Summary of Foreign Aid Commitment and Disbursement by Sectors

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Commitment (USD Millions)</th>
<th>Disbursement (USD Millions)</th>
<th>Disbursement as per % of Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Irrigation and Forestry</td>
<td>32.6</td>
<td>41.2</td>
<td>52.3</td>
</tr>
<tr>
<td>Transport, Power and Communication</td>
<td>24.2</td>
<td>48.3</td>
<td>41.4</td>
</tr>
<tr>
<td>Industry and Manufacturing</td>
<td>13.6</td>
<td>17.2</td>
<td>26.2</td>
</tr>
<tr>
<td>Social Services</td>
<td>33.9</td>
<td>56.2</td>
<td>63.6</td>
</tr>
<tr>
<td>Others</td>
<td>88</td>
<td>122.6</td>
<td>149.2</td>
</tr>
</tbody>
</table>

Table 4. Foreign Aid, Investment and Remittance (in USD Millions) as % of (GDP)

<table>
<thead>
<tr>
<th>Year</th>
<th>Foreign Assistance</th>
<th>Investment</th>
<th>Remittance</th>
<th>GDP (Factor Cost)</th>
<th>Foreign Assistance as % of GDP</th>
<th>Investment as % of GDP</th>
<th>Remittance as % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>363</td>
<td>212</td>
<td>19.6</td>
<td>259</td>
<td>6.9</td>
<td>11.3</td>
<td>3.9</td>
</tr>
<tr>
<td>2005</td>
<td>552</td>
<td>236</td>
<td>22.3</td>
<td>364</td>
<td>8.4</td>
<td>12.1</td>
<td>4.8</td>
</tr>
<tr>
<td>2010</td>
<td>776</td>
<td>321</td>
<td>26.4</td>
<td>447</td>
<td>12.6</td>
<td>16.8</td>
<td>6.2</td>
</tr>
<tr>
<td>2015</td>
<td>820</td>
<td>396</td>
<td>33.6</td>
<td>520</td>
<td>17.5</td>
<td>19.9</td>
<td>9.3</td>
</tr>
<tr>
<td>2017</td>
<td>860</td>
<td>560</td>
<td>41.2</td>
<td>612</td>
<td>18.3</td>
<td>38.7</td>
<td>17.9</td>
</tr>
<tr>
<td>2018</td>
<td>753</td>
<td>622</td>
<td>39.3</td>
<td>692</td>
<td>17.2</td>
<td>29.4</td>
<td>26.2</td>
</tr>
<tr>
<td>2019</td>
<td>916</td>
<td>842</td>
<td>27.5</td>
<td>602</td>
<td>21.3</td>
<td>42.2</td>
<td>31.7</td>
</tr>
</tbody>
</table>


As already explained, Foreign Assistance has increased by (6.8) folds from ($363) million to ($916) million thus contributing (21.3%) to (GDP) in the year (2019).

Similarly, Investment has also increased by about 21 times thereby contributing (42.2%) to (GDP) compared to the year (2000) [56].

Besides, Remittance has also shown significant change with time where it increased its contribution to (GDP) from (3.9%) in the year (2000) to (31.7%) in (2019) - i.e. about (120) times in the year (2015) [57].

5.3 Regression Analysis

The Regression model has employed to examine the impact of the variables. Model specifications in this study include (GDP), factor cost as factor and dependent variable, Foreign Aid (Aid), Remittances (Remit), Investment (Inv), Labor Force (Lab), delay and Lagged (GDP) (LGDP) as factor and independent variable.

The study assumed that all the independent variables in the model have a significant positive impact on the Palestinian Economy, which is an alternative variable through Gross Domestic Product (GDP) [4].

It hypothesized that all the independent variables in the model have a significant positive impact on the Palestinian Economy, which is a proxy, by (GDP).

The Regression result given below:

\[
\ln(GDP_t)=-11.26^* + 0.07 \ln(Aid_t) - 0.05 \ln(Remit_t) + 0.06 \ln(Inv_t) + 1.262 \ln(Lab_t) + 0.80 \ln(GDP_{t-1}) + \ldots + U_t
\]

\[t= (-1.630) (1.106) (-0.563) (0.59) (2.456) (2.268)\]

\[R^2=0.667 \ F=475.473 \ DW=1.654 \ DF=36 \ N=48 \]

Adjusted \[R^2=0.913 \ SEE=0.05266 \ Jarque-Bera=16.73462 \]

Note: * Significance at (1) percent level ** Significance at (5%) level

The study and the result of the Regression show that the mark of all transactions that were performed is positive and valid except for the mark of conversion.

However, the coefficient is not large and may be due to a larger portion of expenditure directed towards consumption, and it appears that there is a very limited amount of Remittances invested in the activities of the Production Sector [44].

Hence, all the variables and inputs included in the model demonstrate the existence of the Regression in real terms.

The \(R^2\) of the model estimation obtained at (0.91), which indicates that (91%) of the variation in (GDP) can be explained by the variation of independent variables used in the model.

The computed \(F (5, 39)\) is 475.473, which is higher than the table value of \(F (5, 39)\).

The model is the best fit.

Therefore, the hypothesis that the coefficient of all variables and inputs combined or simultaneously is not equal to zero (0), this confirms the existence of a relationship between Gross Domestic Product (GDP) and Foreign Aid, Remittances, Investment, Labor Force, and Lagging (GDP).
Table 5. Short and Long-Run Analysis

<table>
<thead>
<tr>
<th>Impact</th>
<th>Foreign Aid</th>
<th>Investment</th>
<th>Remittance</th>
<th>Labour Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-Term Elasticity</td>
<td>0.052</td>
<td>0.048</td>
<td>-0.036</td>
<td>1.262</td>
</tr>
<tr>
<td>Long-Term Elasticity</td>
<td>0.091</td>
<td>0.07</td>
<td>-0.059</td>
<td>1.98</td>
</tr>
</tbody>
</table>

Source: Eviews 44 statically output of Growth Model.

The Lagging (GDP) coefficient is very important at the level (1%), which provides a value of (0.56) for the coefficient based on this parameter, and the Adjustment speed is equal to (1-λ)= (0.706).

It shows that the value (63.6%) was adjusted to the required level of (GDP) in the period covered by the Regression.

Likewise, the Labor Force (10-15 year group) is also very important at the level (1%), while Foreign Aid transactions and Investments are not large.

However, the sign of all transactions is positive according to expectations, and the reason for the scant Investments may be to direct them into the real sector.

The coefficient of the Labor Force (Lab) tells that the (1%) increase in the Labor Force would lead to (1.262) in the output of (GDP) in Short-Run while in Long-Run this would increase to (1.98).

Moreover, the findings of the model suggest that there is a need for emphasizing focused Investment in close collaboration with Government, Private Sector and Development partners.

Besides, there should also be an emphasis on the productive use of Remittance. The opportunities of Remittance considered up to the only Medium-Term plan.

5.4 Structural Breakthrough Analysis

It was the second objective of this study is to find out if there is a Structural Breakthrough in the Palestinian Economy, and many measures have been taken to reform this Breakthrough while restoring democracy.

In addition, Economic Liberalization in the country began with the implementation of Economic Structural Adjustment Programs, by the International Monetary Fund and the World Bank, which linked and attracted many programs for special assistance [64].

As a result, the convertibility of capital and current accounts in the External Sector to obtain more Foreign Aid has been restored and reformed.

To see structural change, a (Chow Test) developed by Gregory C. Chow has used.


Many reform measures implemented in (2011).

The sample data thus divided into two periods: The first period from (2000-2011) and the Second period from (2012-2019) the pre-and post-Liberalization periods.

From this, three possible Regressions are drawn:

First period (2000 to 2011): (n₁=18)
\[ GDP_t = \alpha_1 + \alpha_2(Aid)_t + \alpha_3(Remit)_t + \alpha_4(Inv)_t + \alpha_5(Lab)_t + \alpha_6(GDP)_{t-1} + \ldots + U_{1t} \] (Model 3)

Second period (2012 to 2019): (n₂=24)
\[ GDP_t = \beta_1 + \beta_2(Aid)_t + \beta_3(Remit)_t + \beta_4(Inv)_t + \beta_5(Lab)_t + \beta_6(GDP)_{t-1} + \ldots + U_{2t} \] (Model 4)

Whole period (2000 to 2019): (n= n₁ + n₂ =42)
\[ GDP_t = \gamma_1 + \gamma_2(Aid)_t + \gamma_3(Remit)_t + \gamma_4(Inv)_t + \gamma_5(Lab)_t + \gamma_6(GDP)_{t-1} + \ldots + U_t \] (Model 5)

Regression (5) assumes that there is no difference between the two periods and therefore estimates the relationship between Foreign Aid and Economic Growth for the period consisting of (40) observations.

In other words, the Regression assumes that the intercept, as well as the slope coefficient, remains the same over the entire period; i. e. there is no structural change.

If this is the situation, then \( \alpha_1 = \beta_1 = \gamma_1 \) and \( \alpha_2 = \beta_2 = \gamma_2 \).

Regression (3) and (4) assume that the Regressions in the two periods are different; i. e. the intercepts and the slope coefficients are
different, as indicated by the subscripted parameters.

In the preceding Regressions, the \((U's)\) represent the error terms and the \(n's\) represent the number of observations. For the data given in the table above, the empirical counterparts of the preceding three Regressions areas:

**For the First Period:**

\[
\begin{align*}
\text{GDP}_t &= -4.002 + 0.036 (\text{Aid})_t + 0.026 (\text{Remit})_t + 0.408 (\text{Inv})_t + 0.626 (\text{Lab})_t + 0.293 (\text{GDP})_{t-1} + \ldots + U_{1t} \\
t &= (-0.269) (-0.098) (-0.096) (1.563) (0.458) (0.967) \\
R^2 &= 0.987 \quad \text{RSS}_1 = 0.073 \quad \text{DF} = (n_1-k) = (18-6) = 12
\end{align*}
\]

**For the Second Period:**

\[
\begin{align*}
\text{GDP}_t &= -11.180 + 0.048 (\text{Aid})_t + 0.016 (\text{Remit})_t + 0.060 (\text{Inv})_t + 1.903 (\text{Lab})_t + 0.063 (\text{GDP})_{t-1} + \ldots + U_{2t} \\
t &= (-3.186) (-0.936) (1.396) (1.092) (6.752) (-0.198) \\
R^2 &= 0.999 \quad \text{RSS}_2 = 0.007 \quad \text{DF} = (n_2-k) = (24-6) = 18
\end{align*}
\]

**For the Whole Period:**

\[
\begin{align*}
\text{GDP}_t &= -13.760 + 0.093 (\text{Aid})_t + 0.036 (\text{Remit})_t + 0.048 (\text{Inv})_t + 1.396 (\text{Lab})_t + 0.56 (\text{GDP})_{t-1} + \ldots + U_t \\
t &= (-1.966) (1.306) (-0.973) (0.484) (2.479) (2.842) \\
R^2 &= 0.998 \quad \text{RSS}_R = 0.010 \quad \text{DF} = (n_1+n_2-k) = (18+24-6) = 36
\end{align*}
\]

Since two sets of samples deemed independent, \(\text{RSS}_1\) and \(\text{RSS}_2\) added to obtain the unrestricted residual sum of square \(\text{RSS}_{UR}\), i.e. \(\text{RSS}_{UR} = \text{RSS}_1 + \text{RSS}_2 = 0.073 + 0.007 = 0.08\); \(\text{DF} = (n_1+n_2-2k) = 18+24-12 = 30\)

The idea behind the (Chow Test) is that if in fact, there is no Structural Change, and then the \(\text{RSS}_R\) and \(\text{RSS}_{UR}\) should not be statistically different. Thus, the following ratio formed as:

\[
F = \frac{(\text{RSS}_R - \text{RSS}_{UR})/k}{(\text{RSS}_{UR})/(n_1+n_2-2k)}
\]

\[
F = \frac{(0.109 - 0.08)/6}{(0.08)/30} = 1.612
\]

Alternatively, \(F = (0.109 - 0.0)/6 = 1.612\)

From the \(F\)-tables, it found that for a degree of freedom \((6\text{ and }30)\), the \((5%)\) critical \(F\)-value is \((2.84)\). Therefore, the probability of obtaining an \((F\)-value\) of as much as or greater than \((1.612)\) is much smaller than \((5%)\).

Besides, the (Chow Test), therefore, it seems to support and reinforce the hypothesis of the current study, which indicates that the relationship between Foreign Aid and the \(\text{GDP}\) did not witness an Economic Structural Breakthrough in Palestine during the period \((2000-2019)\), and assuming that all the assumptions underlying the test that was conducted in the study are fulfilled.

6. CONCLUSIONS

Most Developing Countries like Palestine are characterized by a low level of Domestic Saving and hence the shortage of capital to undertake Development Programs. This in turn necessitates the country to rely on External Finance from Developed Countries, which is something one cannot afford to ignore.

The Growth Model result showed that Aid contributed positively to Economic Growth in the Long-Run, but its Short-Run Impact appeared to be negligible, indicating that most of the Aid has been used to Finance Long-Run Investment. However, there has been a great debate on the contribution of this Foreign Assistance to Economic Growth. As a result, the core objective of this study is to look at the Impact of Foreign Aid on the Economic Growth of Palestine using annual time series data from \((2000-2019)\).

The results of this study show that there is a positive Impact, but there is no significant relationship between Foreign Aid and Economic Growth in Palestine, as Foreign Grants increase at a lower rate than Foreign Loans.

This study notes that the priorities of Foreign Aid have shifted from the Production Sector to the Non-Production Sector, that is, the Humanitarian and Social Services Sector, which contributed less to Gross Domestic Product (GDP) compared to other Macroeconomic variables such as Investment and Remittances.

In the case of Foreign Assistance, Foreign Loans has increased tremendously as compared to Foreign Grants. This has increased the burden of debt on future generations.
However, the study shows that the Remittance has although not significant but negative relationship with (GDP). This may be due to the use of Remittance Inflows in consumption rather than Investment. It has been seen that the Labor Force and Domestic Investment contributes positively to Economic Growth in the Long-Run and Short-Run.

This shows that these variables remain as the key factor that can foster Economic Growth in Palestine. Thus, the country should be built up some strategy around Labor Force and Domestic Saving leading to Domestic Investment and much better focus on these internal factors than external factors to boost its Economic Growth.

Therefore, Foreign Aid can be used to finance these Gaps and enhance Economic Growth if it is supplemented by Good Monetary, Fiscal and Trade Policies. Empirical Evidence obtained in this study is an indication that Aid Flows to Palestine will be effective conditional on the stable Macroeconomic Environment.

7. POLICY RECOMMENDATIONS OF THE STUDY

The Government of the country should therefore better pursue Economic Policies that at least reveal a Low Inflation Rate, Productive Budgetary Balance and Good Trade Policies.

Meanwhile, Labour Force and Lagged (GDP) shows a significant positive relationship with (GDP), which implies that increasing Labour Force, has led to an increase in (GDP), and (GDP) from the previous year is being used as capital in the current year.

During the analysis process, it was also found that the country did not witness any Structural Economic Breakthrough even after the introduction of various reform measures and the start of Economic Stability and Trade Liberalization. This means that the reform measures that were taken during that period were not sufficiently effective and feasible and require further review in order to Practical effects needed.

Foreign Aid that interacts with Politics has a major positive effect on Growth only in the Long-Run. The positive outcome is linked to the Policy Environment (Macroeconomic and Infrastructure) in the country which makes the assistance more effective.

Therefore, Aid is effective in promoting Growth in Palestine in the period considered; but its effectiveness would have been higher if it was supported by a sound Macroeconomic Policy Environment.

Therefore, during the period under consideration, Aid played a positive role in improving Economic Growth in Palestine, and based on Empirical Investigations, the following Policy Implications will be drawn up by researchers which the Palestinian Government can recommend. Thus, establishing a Sound Policy Environment is critical to using Aid more effectively and to making Domestic Investment more efficient and Foreign Aid can be used to boost Economic Growth.

Finally, the study suggests that the Government of Palestine is required to set a sound Macroeconomic Policy Environment that stimulates Domestic Saving that is adequate to Finance Investment and to close the Saving Investment Gap in the Long-Run and reliance on future Aid and borrowing should be diminished and a country’s Growth must be sustained without Aid.

8. LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FUTURE STUDIES

The study explores the Impact of Foreign Aid on the Economic Growth of Palestine by estimating Growth Model. To achieve this objective, the period (2000-2019) was chosen based on the availability of data on variables used in the study.

It is important to note the previous studies that studied the title of the current study, and what are the most important results, conclusions and recommendations that came out of those studies.

Therefore the current study represents some important limitations such as its reliance on previous studies and a scientific methodology appropriate to the problem of the study and the process of data analysis, data from reliable official Government sources were used and analyzed, and the study reached good and satisfactory results.

However, the conclusions and recommendations are considered sufficient for the purpose based on the data analyzed by the authors. Another
important limitation is that this study used the quantitative approach to data a lot and the qualitative less, and the statistical approach was also used to reach those results available to us, and therefore future studies and researches will benefit from this study as results, conclusions and recommendations that have been summarized in a brief and written form in the most prominent of which are.

Besides, the type of scientific approach used and the methodology used to solve and examine the study problem is suitable and beneficial for future studies and researches.

One of the important limitations of this study is that it revealed the real effect of Foreign Aid on the country’s Economic Growth process, besides that it showed the quality and quantity of this Aid, and used the approach of analyzing data in the Short-Run and Long-Run, and showed the effect of each of the variables used in the study on the process of Economic Growth in Palestine, and the study proved that with Empirical Evidence from the current Palestinian Economic Situation.

Therefore, future studies and researches will benefit from the current study of its findings, conclusions and recommendations, and will help authors and researchers to conduct broader studies related to the topic and problem of the current study.

Besides, the result of the study is also confined by the quality of data. This limitation arises from the inconsistency of data reported by different institutions and even by different departments in the country.

Additionally, because of the lack of data, it has been unable to use a long period for the study.

9. NOVELTY OF THE STUDY

The novelty of this study lies in the new findings, conclusions and recommendations it provides a real benefit to Decision-Makers in the country and the Decision-Making process in another way.

The data analysis and quantitative content analysis of these data in the study showed that there is a positive retrospective Impact of Financial Aid from Donor Countries on the Economic Growth of Palestine.

Significantly, this Foreign Aid has achieved in all its Financial and Non-Financial forms on the process of Economic Growth of the country, and Economic Development as a whole to discover this novelty can be extracted from those findings of the study and the conclusions and recommendations presented by the study, this novelty is considered a useful model for future studies in this regard.

DECLARATIONS

The views, conclusions, and recommendations derived here are the narratives concluded by the authors, based on the data (Facts/Figures) that derived in this paper, which do not reflect the official views and perspectives of the Organizations where the authors are associated now. This study conducted in early (2020), in the first months of the onset of (COVID-19).

DATA AVAILABILITY STATEMENT

The data and materials that support the findings of this study are available from the corresponding author upon request. Datasets derived from public resources and made available with the authors. Data analyzed in this study were a reanalysis of existing data, which are openly available at locations cited in the reference section.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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