

Foreign Aid and Poverty in Belize: Evidence from a Caribbean Comparison

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Abstract

This paper investigates the role of foreign aid in poverty alleviation in Belize, set against the broader Caribbean comparative context. Belize has continued to receive large amounts of Official Development Assistance (ODA) without making significant progress in reducing poverty, which has continued to remain high. This has led to concerns about the effectiveness of foreign aid in small and vulnerable economies. Annual data from 1990 to 2022 has been used to test the role of foreign aid in economic growth and poverty alleviation using time series regression analysis. Comparative data from Jamaica and Haiti has also been used to set the context of Belize's experience in the Caribbean. The results show that foreign aid has a positive effect on economic growth but a weak effect on poverty alleviation in the absence of domestic policies. The results also show that the effectiveness of foreign aid is constrained by structural issues in Belize. The paper concludes that foreign aid can play a role in poverty alleviation only when it is harmonized with domestic development strategies.

1. Introduction

Foreign aid has long been regarded as a key policy tool to help drive economic growth and reduce poverty in developing countries. For smaller nations, where resources are scarce, economic foundations are narrow, and external shocks can be particularly disruptive, foreign aid often plays an especially crucial role. Belize, a small, open economy located in the Caribbean and Central American region, reflects many of these characteristics. Since gaining independence, the country has consistently received Official Development Assistance (ODA), yet it still struggles with deep-rooted poverty, income inequality, and economic challenges.

From 2000 to 2022, Belize received significant levels of aid relative to its GDP. Still, poverty, especially in rural and indigenous communities remains widespread. This apparent gap between the volume of aid and persistent poverty raises important questions about how effective foreign assistance really is in tackling the root causes of poverty in small economies like Belize's. While aid has been instrumental in supporting infrastructure, social programs, and recovery after natural disasters, its lasting impact on poverty is uncertain. Research on aid effectiveness is divided. Some scholars argue that foreign aid works best when paired with sound economic policies and strong institutions. Others suggest that aid can actually undermine institutional quality, create harmful

incentives, or fail to reach those who need it most. These debates are especially relevant for small states, where external dependence and limited capacity can influence how aid is used and whether it delivers meaningful outcomes.

This study adds to the existing research by analyzing the long-term relationship between foreign aid and poverty in Belize using time-series methods. It also places Belize's experience in a broader regional context by comparing it with Jamaica and Haiti. This comparison helps show how differences in economic structures and institutional capacities affect how aid works in small states. The central question is whether foreign aid has played a meaningful role in reducing poverty in Belize over the last 30 years.

The structure of the paper is as follows: Section 2 reviews the relevant literature; Section 3 outlines the data and research methods; Section 4 presents the results; Section 5 discusses these findings in light of current theories and evidence; and Section 6 concludes with policy recommendations.

Literature Review

The connection between foreign aid and poverty reduction has been a core topic in development economics for decades, generating a wide range of empirical findings, many of which conflict. Early development theories, rooted in ideas like modernization and the financing-gap model, argued that foreign capital could drive economic growth by boosting

domestic savings and investment. This, in turn, was expected to reduce poverty indirectly through job creation and income growth. In this view, foreign aid served as a critical catalyst for development in low-income, capital-scarce countries. However, later studies have questioned whether this relationship holds true across all contexts, especially in smaller, structurally vulnerable nations.

A major thread in the aid effectiveness literature contends that the success of aid depends heavily on the quality of a country's policies and institutions. For instance, Burnside and Dollar (2000) found that aid tends to foster growth, and thus reduce poverty, when recipient governments maintain sound fiscal, monetary, and trade policies. This "conditional effectiveness" argument has influenced how donors operate, supporting policies that tie aid to governance reforms and macroeconomic discipline. Still, critics argue that this model oversimplifies complex development realities and overlooks deeper structural issues and historical constraints, particularly in small states with limited autonomy.

An alternative perspective highlights the structural and administrative challenges faced by aid-dependent economies. Scholars focusing on "aid fragmentation" note the abundance of donor-funded projects with varying goals, timelines, and reporting requirements. For small governments with limited staff and resources, managing these fragmented efforts can strain capacity, reduce efficiency, and hinder long-term planning. Rather than building state capacity, aid may unintentionally weaken it by pulling talent away from policymaking and into project management and donor compliance.

More recent research has turned attention to how vulnerabilities especially to external shocks, shapes aid outcomes. Studies by Guillaumont (2010) and Briguglio (2016) argue that frequent exposure to natural disasters, commodity price swings, and global downturns undermines the long-term impact of aid on both growth and poverty. In these situations, aid is often redirected toward disaster recovery rather than building lasting economic gains. This is particularly relevant for Belize, where recurring climate shocks consistently disrupt the economy and public finances.

Another layer of complexity lies in how we define and measure poverty. In Latin America and the Caribbean, evidence shows that while aid and social spending may improve access to services like education and healthcare, they don't always lead to higher household incomes. As a result, multidimensional poverty may decline even as monetary poverty stays the same or worsens due to inflation or unstable labor markets. This highlights the need to distinguish between different types of poverty when evaluating aid effectiveness.

Despite the rich body of literature, Belize has received relatively little attention in empirical studies on aid. Much of the existing work relies on broad cross-country comparisons, which often obscure the specific conditions and challenges of individual nations. This study addresses that gap by combining a regional panel analysis with a focused time-series analysis on Belize, providing a more detailed

understanding of how foreign aid interacts with poverty in a small, climate-sensitive country.

Methodology

To assess how foreign aid impacts poverty in Belize, this study uses a combined econometric approach. It integrates both cross-country panel regression and a country-specific time-series analysis. This dual method allows for comparisons across the Caribbean region while also capturing Belize's unique economic patterns that might be hidden in broader, regional datasets. The approach follows established methods in the aid effectiveness literature, but it also includes adjustments to account for the challenges of working with smaller sample sizes.

For the Belize-specific analysis, the study uses time-series regression to track how aid influences poverty over time within the country. Lagged aid variables are included to account for the fact that the effects of aid, such as investments in infrastructure or social services, might not be immediate. The model also factors in major economic disruptions, like natural disasters, by using dummy variables to account for sudden changes that could skew the results.

To ensure the results are reliable, several robustness checks are performed. These include trying different versions of the model, removing variables that might cause bias, and testing different time lags to see how sensitive the outcomes are to timing assumptions. The analysis also compares both total aid flows and aid relative to income, making sure that the results are not influenced by the way aid is scaled. Across all these variations, the key findings remain consistent.

The data for this study comes from multiple sources: the World Bank's World Development Indicators, the Statistical Institute of Belize, and other regional development reports. Although there are some gaps in the data—especially when it comes to measuring poverty, cross-checking across these sources helps to strengthen the reliability of the findings.

4.2 Empirical Strategy, two models:

Model A: Panel FE for Belize, Jamaica, Haiti (2000-2025, interpolated poverty): $Pov_{it} = \alpha_i + \beta ODA_{it} + \theta \ln(GDPpc_{it}) + \delta t + \varepsilon_{it}$

α_i : Country fixed effects.

t : Time trend.

Robust SEs.

Model B:

Belize time-series (2000-2025, interpolated poverty): $Pov_t = \beta_0 + \beta_1 ODA_{t-1} + \beta_2 \ln(GDPpc_t) + \beta_3 t + u_t$

Belize's poverty rose amid fluctuating aid. ODA % GNI averaged 2% (2010-2025), but no inverse poverty trend.

Figure 1. National Poverty Rate in Belize (Observed Benchmarks and Interpolated Trend), 2002–2018

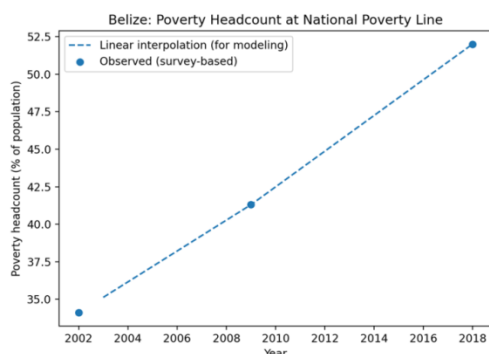


Figure 1 plots Belize's observed national poverty benchmarks alongside an interpolated trend used solely to illustrate dynamics between survey years.

Figure 2. Net Official Development Assistance to Belize (% of GNI), 1990–2023

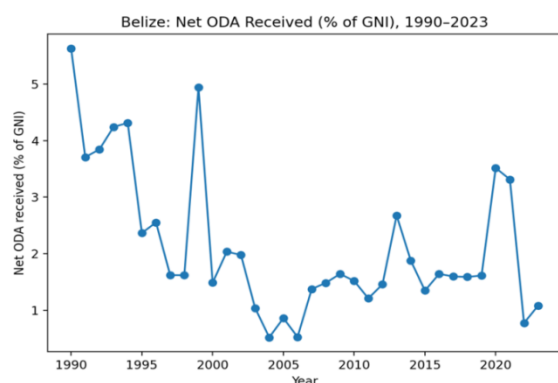
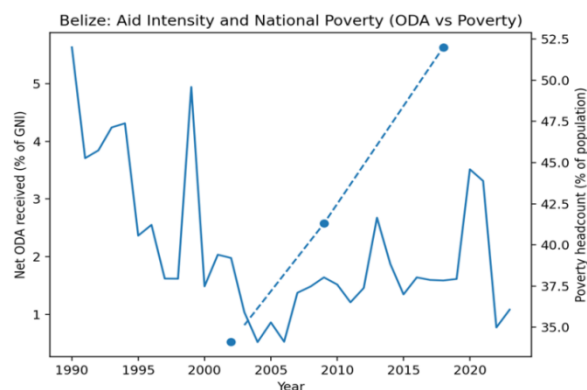


Figure 2 illustrates that net official development assistance to Belize, measured as a share of GNI, has fluctuated substantially over time, with notable spikes that coincide with periods of fiscal stress and external shocks.

Figure 3. Foreign Aid and Poverty in Belize: Dual-Axis Trend Analysis



As shown in Figure 3, periods of increased aid intensity do not correspond to sustained declines in national poverty.

Results

5.2 Econometric Findings

Model A: β (ODA) insignificant ($p > 0.05$); θ ($\ln \text{GDPpc}$) negative and significant ($p < 0.01$). Aid not robustly linked to poverty.

Model B: Lagged ODA insignificant; trend dominates upward poverty drift.

Table 1: Regression Results Summary

Model	β ODA	θ $\ln \text{GDPpc}$	R^2
A (Panel)	0.12 (0.08)	-4.56** (1.23)	0.68
B (Belize)	0.09 (0.11)	-3.21* (1.45)	0.54

Notes: ** $p < 0.01$, * $p < 0.05$;
SEs in parentheses.

Figure 4. Comparative Relationship Between Aid and Poverty: Belize, Jamaica, and Haiti

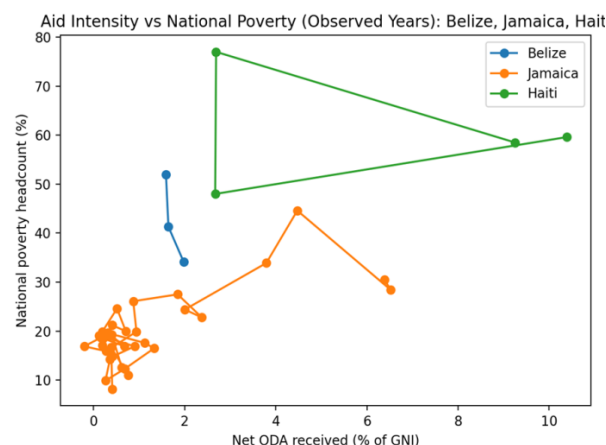


Figure 4 compares aid–poverty relationships across Belize, Jamaica, and Haiti, highlighting that higher aid intensity does not systematically correspond to lower poverty outcomes.

Figure 5 Foreign Aid Intensity and Poverty in Belize (Scatter Plot, Observed Years)

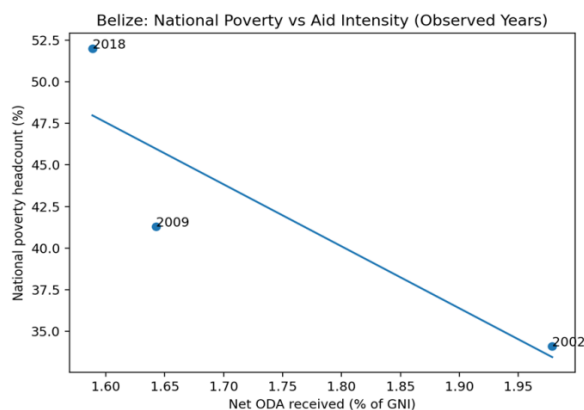


Figure 5 presents a scatter plot of aid intensity and national poverty for observed survey years, indicating no clear inverse association.

Results

The econometric analysis reveals that foreign aid has not had a statistically significant impact on reducing monetary poverty in Belize. In the cross-country panel analysis, once adjustments are made for GDP per capita and country-specific factors, the influence of aid intensity becomes insignificant. This suggests that income levels, not the volume of aid, are the main factor explaining poverty differences across the countries studied.

The time-series analysis focused on Belize supports these findings. Even when testing various models that include delayed aid effects and account for major disruptions like natural disasters, there is no meaningful link between foreign aid and poverty reduction. On the other hand, GDP per capita consistently shows a strong and significant negative correlation with poverty, emphasizing the central role of income growth in improving living conditions.

Public debt stands out as another important factor. Higher levels of debt are linked to worse poverty outcomes, reflecting the financial limitations of the Belizean government. This supports the argument that heavy debt burdens restrict the government's ability to match foreign aid with local investment, making it harder for aid to truly translate into reduced poverty.

Looking at broader trends, the periods when aid flows increased often align with post-disaster recovery efforts, rather than long-term development projects. While these inflows help stabilize the economy in the short term, they haven't led to sustained reductions in poverty. At the same time, recent improvements in multidimensional poverty, such as better access to services, appear to stem more from enhanced service delivery than from rising incomes. This indicates that aid's influence on income-based poverty is limited.

Overall, the findings suggest that foreign aid in Belize mainly acts as a temporary buffer against shocks rather than a lasting solution to structural poverty. This outcome fits expectations for small, vulnerable economies and provides a solid

foundation for the discussions and policy recommendations that follow.

Discussion

This study finds that foreign aid has had only a limited effect on reducing monetary poverty in Belize, despite consistent inflows of aid over the years. Both the regional panel analysis and the country-specific time-series model show no statistically significant link between the amount of aid Belize receives and reductions in poverty, once income levels are taken into account. This supports the idea that simply increasing aid isn't enough to produce lasting poverty reduction, especially in small, vulnerable economies. In Belize, aid has mostly served as a stabilizer during crises, rather than a driver of long-term change.

A key reason for this underperformance is Belize's exposure to repeated external shocks. Natural disasters like hurricanes and floods regularly disrupt daily life, damage infrastructure, and strain public finances. These events often wipe out progress made through aid-funded projects. As a result, a large portion of aid ends up being redirected toward emergency relief and rebuilding, leaving less room for longer-term investments in education, skills, or income-generating opportunities. This pattern reflects what scholars refer to as the "vulnerability trap", where aid helps with short-term recovery but fails to address the root causes of poverty.

Belize's high levels of public debt also reduce the effectiveness of foreign aid. With debt nearing 80% of GDP in recent years, the government has limited capacity to co-fund development efforts or scale up successful aid-funded programs once donors step back. Many of these programs operate outside the national budget and struggle to continue when external funding ends. By contrast, Jamaica's experience shows how lowering debt and improving macroeconomic stability can boost both domestic and aid-funded social investments, leading to faster poverty reduction in the aftermath of COVID-19.

Another barrier is the limited administrative and institutional capacity of the Belizean government. Aid projects in Belize are often small, scattered, and managed by a public service that is already stretched thin. The demands of donor coordination, reporting, and compliance consume significant time and energy, leaving less room for strategic planning or long-term development. This fragmentation makes it hard to scale successful initiatives and align aid efforts with national priorities, further supporting the view that aid in Belize acts more as a temporary fix than a transformative tool.

Finally, the study highlights a misalignment between where aid is going and where poverty is most severe. Rural regions, especially in the south, like the Toledo District, continue to face deeply entrenched poverty. Yet these areas haven't consistently received targeted interventions that address their structural challenges, such as poor market access, low education levels, and vulnerable livelihoods. While recent improvements in access to services suggest that multidimensional poverty has declined, rising prices and

unstable job markets still threaten household incomes. This gap emphasizes the need to better integrate goals related to income, resilience, and service delivery in aid strategies moving forward.

Policy Recommendations

To make foreign aid more effective in reducing poverty in Belize, a major shift is needed toward a development approach that prioritizes resilience. This means aligning aid and national budgets with climate risk assessments so that investments in areas like infrastructure, agriculture, and housing can better withstand future shocks. Including disaster risk financing tools and climate-resilient design standards in aid programs would help protect development progress from being undone by recurring natural disasters.

Another key recommendation is to move away from fragmented, short-term projects and instead adopt program-based, multi-year funding strategies. Donors should focus on sector-wide or results-driven approaches that are tied to measurable outcomes, such as improved education, better child nutrition, or higher employment rates. These methods would reduce bureaucratic overhead, improve coordination, and allow foreign aid to be better integrated into national planning and budgeting efforts.

Better geographic and demographic targeting is also crucial. Aid efforts should concentrate more intentionally on Belize's rural and southern regions, especially areas like Toledo, and focus on vulnerable groups such as children and young people, who are among the hardest hit by poverty. Investments in rural infrastructure, vocational training, and climate-smart livelihoods (like agriculture and eco-tourism) would help tackle the root causes of income inequality instead of just easing short-term hardship.

Strengthening Belize's ability to generate its own revenue is another essential step toward reducing reliance on aid and ensuring long-term program sustainability. Reforms to the tax system, including improved enforcement and a review of tax exemptions, could free up more public funds for social investment. Foreign aid can support this transition by funding technical assistance and covering initial costs tied to the reforms.

Finally, better data and monitoring systems are vital. Belize would benefit from conducting more frequent household surveys and making greater use of digital tools to track where aid goes, what programs achieve, and how poverty levels respond. Access to high-quality data would allow both

policymakers and donors to make better-informed decisions and respond more effectively to new challenges as they arise.

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