ISSN 2411-9563 (Print)
ISSN 2312-8429 (Online)
European Journal of Social Science Education and Research
April - June 2025
Volume 12, Issue 2

Submitted: 15/04/2025 - Accepted: 12/05/2025 - Published: 28/06/2025

The Social Impact of Fiscal Policy: A Comparative Analysis of Public Investment and Taxation on Social Welfare in Albania (2000-2023)

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DOI: 10.26417/054ncx45

Abstract

Fiscal policy is a critical instrument for shaping not only economic trajectories but also social outcomes. This study empirically assesses the comparative impact of public investment and tax revenues on social welfare, proxied by economic growth, in Albania from 2000 to 2023. By dividing the analysis into pre-crisis (2000–2007) and post-crisis (2008–2023) periods, this paper provides evidence-based insights into the shifting effectiveness of fiscal instruments in fostering an economic environment conducive to social development. Using an Ordinary Least Squares (OLS) regression framework with minimalist and lagged models, the study analyzes annual time-series data. A suite of econometric diagnostics, including tests for stationarity (ADF), multicollinearity (VIF), heteroscedasticity (White), autocorrelation (Durbin-Watson), and normality of residuals (Jarque-Bera), ensures the robustness of the findings. The results reveal a structural shift in fiscal policy effectiveness. In the pre-crisis period, public investment, particularly with a one-year lag, was a significant driver of growth, suggesting its role in building foundational infrastructure with broad social benefits. Conversely, in the post-crisis era, tax revenues emerged as a statistically significant growth-enhancing factor, reflecting improved fiscal capacity to fund social programs and ensure stability. The impact of public investment, while still positive, diminished in significance, raising questions about its efficiency and allocation towards socially impactful projects. This research contributes to the social science literature by contextualizing the economic impact of fiscal levers within a broader social welfare framework, offering critical insights for policymakers in transition economies on how to balance growth-oriented policies with objectives of social equity and sustainable development.

Keywords: fiscal policy, public investment, taxation, social welfare, economic growth, transition economy, OLS regression

Introduction

Fiscal policy, encompassing government decisions on spending and taxation, stands as a primary mechanism for macroeconomic management. Beyond its role in stabilizing economic cycles, it holds profound implications for social equity, public service delivery, and long-term human development (Muinelo-Gallo & Roca-Sagalés, 2013). In transition economies such as Albania, which have undergone radical structural transformations, the strategic use of fiscal instruments is paramount. These nations face the dual challenge of fostering robust economic growth while simultaneously building inclusive social systems, funding education, and strengthening healthcare infrastructure (World Bank, 2021). The central question is not merely whether fiscal policy stimulates growth, but how its core components—public investment and taxation—can be calibrated to enhance social welfare and promote sustainable, equitable development.

This paper provides an empirically grounded analysis of the comparative impact of public investment and tax revenues on Albania's economic growth, used here as a proxy for the state's capacity to enhance social welfare, over the 2000–2023 period. The Albanian context is particularly instructive. Emerging from a centrally planned system, its journey has been marked by economic liberalization, integration into global markets, and significant external shocks, including the 2008 global financial crisis and the COVID-19 pandemic (IMF, 2020). These events have tested the resilience and adaptability of its fiscal framework, forcing policymakers to make critical choices between stimulating demand through investment and ensuring fiscal sustainability through revenue collection. Understanding which of these levers has been more effective, and under which conditions, is crucial for designing policies that support both economic dynamism and social progress.

The study's contribution is twofold. First, it addresses a gap in the literature by providing a long-term, comparative assessment of fiscal instruments in a Southeast European transition economy, a context often underrepresented in major empirical studies. Second, by dividing the analysis into pre-crisis (2000–2007) and post-crisis (2008–2023) periods, it captures the structural shifts in policy effectiveness. This temporal division allows for a nuanced interpretation of how the role of the state, expressed through its fiscal choices, evolves in response to changing macroeconomic realities. By interpreting the economic results through a social welfare lens, this study moves beyond a purely financial analysis to offer policy-relevant insights on aligning fiscal strategy with broader social objectives, such as funding for education, health, and social protection.

Literature Review and Theoretical Framework

Theoretical Underpinnings of Fiscal Policy and Social Welfare

The debate on the role of fiscal policy is anchored in competing theoretical traditions. The Keynesian framework posits that public spending, particularly investment in infrastructure and human capital, is a powerful tool for stimulating aggregate demand and correcting market failures, especially during economic downturns (Keynes, 1936). From a social policy perspective, this view supports the concept of the "social investment state," where government spending on education, health, and social services is not merely a cost but a long-term investment in productivity and social cohesion (Hemerijck, 2017). Productive public investments can generate positive externalities, creating a virtuous cycle of economic growth and enhanced public resources available for social programs (Barro, 1990).

Conversely, neoclassical and supply-side theories often emphasize the potential distortions caused by government intervention. From this perspective, high levels of taxation can disincentivize work, saving, and private investment, thereby hindering economic growth (Alesina & Ardagna, 2010). The policy prescription often involves lower taxes and a reduced state footprint to unleash private sector dynamism. However, this perspective is challenged by evidence suggesting that the *structure* of taxation is more important than its level. For instance, progressive tax systems and revenues earmarked for public goods can enhance both efficiency and equity, contributing to a stable environment for investment and social development (Kneller et al., 1999).

More recent literature seeks to bridge this divide, arguing that the effectiveness of fiscal policy is highly context-dependent. Factors such as the quality of governance, the level of public debt, the economic cycle, and the openness of the economy determine the size of fiscal multipliers (Ilzetzki et al., 2013). For developing and transition economies, institutional capacity is particularly critical. Without strong governance and transparency, public investment can be inefficiently allocated, and tax systems can be undermined by informality and evasion, limiting the state's ability to fund essential social services (Clemens & Miran, 2012).

Empirical Evidence on Fiscal Policy's Social Impact

Empirical studies increasingly focus on the differential impacts of fiscal instruments on social outcomes. Research shows that public investment in social infrastructure, such as schools and hospitals, yields high long-term returns, not only in economic terms but also in improved health and educational attainment (Aghion et al., 2020). De la Fuente and Vives (1995) found that public investment in infrastructure was a key driver of regional convergence and development in Spain. However, the impact is not automatic. Ramey (2011) highlights that the effects of public investment often materialize with significant lags, requiring sustained political commitment and effective project implementation. Furthermore, the efficiency of this spending is paramount; poorly targeted investments may yield negligible social returns (Kraay, 2014).

On the revenue side, the composition of taxes matters significantly for social equity. Obadic and Globan (2022) found that in Central and Eastern European countries, a shift towards direct taxation was associated with reductions in income inequality. Conversely, heavy reliance on indirect taxes, such as VAT, can be regressive, disproportionately burdening lower-income households (Bastagli et al., 2019). The post-2008 crisis period has seen a renewed focus on strengthening tax administration in developing countries as a means to expand the fiscal space for social spending without resorting to unsustainable debt (IMF, 2020).

In the context of transition economies like Albania, the literature underscores unique challenges. High levels of informality, dependence on remittances, and vulnerability to external shocks can mute the effectiveness of traditional fiscal tools (Fatas & Mihov, 2009). For these countries, building a robust and fair tax system is a foundational step toward fiscal sovereignty and the ability to self-finance social development goals. This study builds on this literature by empirically testing these dynamics in Albania, examining how the balance between investment-led stimulus and revenue-based consolidation has shifted over time and what this implies for the country's socio-economic development path.

Methodology

Research Design and Model Specification

This study employs a quantitative, longitudinal research design to analyze the relationship between fiscal policy instruments and economic growth in Albania from 2000 to 2023. To capture the distinct macroeconomic environments, the analysis is bifurcated into two sub-periods: a pre-crisis phase of rapid growth and consolidation (2000–2007) and a post-crisis phase characterized by slower growth and fiscal adjustments (2008–2023). An Ordinary Least Squares (OLS) linear regression model is utilized due to its transparency and straightforward interpretation of coefficients, which is particularly useful for policy-oriented analysis (Wooldridge, 2013).

To provide a robust comparative analysis, two model specifications are estimated for each period:

1. **The Minimalist Model:** This model assesses the contemporaneous relationship between the fiscal variables and economic growth, providing a direct estimate of their immediate impact.

$$GDP\_Growth_t = \beta_0 + \beta_1 Tax\_Revenue_t + \beta_2 Public\_Investment_t + \varepsilon_t$$

2. **The Lagged Model:** Recognizing that public investment projects often have delayed effects on the economy (Ramey, 2011), this model incorporates a one-year lag for the public investment variable. Tax revenues are kept contemporaneous, as their effects on consumption and private investment are generally more immediate (Auerbach & Gorodnichenko, 2012).

$GDP\_Growth_t = \beta_0 + \beta_1 Tax\_Revenue_t + \beta_2 Public\_Investment_{t-1} + \varepsilon_t$

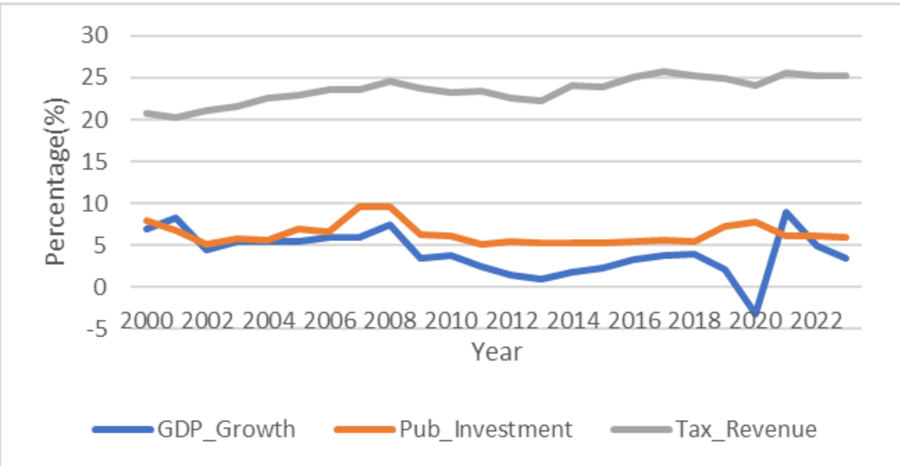
In these models, t represents the year, β_0 is the intercept, β_1 and β_2 are the coefficients for the independent variables, and ε_t is the error term.

Data and Variables

The analysis uses annual time-series data for the period 2000–2023, sourced from reputable international and national institutions, including the World Bank, International Monetary Fund (IMF), and Albania's Ministry of Finance and Institute of Statistics (INSTAT).

- **Dependent Variable (GDP_Growth):** The annual real GDP growth rate. This is used as a primary indicator of macroeconomic performance and a proxy for the expansion of national resources available for improving social welfare, funding public services, and raising living standards. While an imperfect measure of welfare, it is a critical prerequisite for sustainable social development in a lower-middle-income country.
- **Independent Variables:**
  - **Public_Investment:** Gross fixed capital formation by the public sector, expressed as a percentage of GDP. This variable captures government spending on infrastructure, such as transport, energy, education, and health facilities, which are crucial for long-term social and economic development.
  - **Tax_Revenue:** Total government tax receipts, expressed as a percentage of GDP. This variable reflects the state's capacity to extract resources to fund public goods and social transfers.

Graph 1. Annual Performance of Economic Growth, Public Investment, and Tax Revenues in Albania (2000–2023)



Source: Author's compilation based on World Bank and IMF data.

Graph 1 illustrates the trends of the key variables. Tax revenues exhibit a gradual but steady increase over the period, indicating strengthening fiscal capacity. Public investment shows more cyclicality, peaking before the 2008 crisis and again before the pandemic, reflecting its use as a counter-cyclical tool. Economic growth, the most volatile of the three, highlights the impact of external shocks, particularly the deep contraction in 2020 and the subsequent recovery. These distinct patterns justify the temporal split in the analysis.

Econometric Procedure and Diagnostic Tests

The analysis was conducted using Stata software. To ensure the validity and reliability of the OLS estimates, a series of standard diagnostic tests were performed for each sub-period model:

- **Augmented Dickey-Fuller (ADF) Test:** To check for the stationarity of the time-series data and avoid spurious regressions.
- **Variance Inflation Factor (VIF):** To detect potential multicollinearity among the independent variables.
- **White's Test:** To test for the presence of heteroscedasticity (non-constant variance of the error term).
- **Durbin-Watson Test:** To identify first-order serial correlation in the residuals.
- **Jarque-Bera Test:** To assess whether the model's residuals follow a normal distribution, a key assumption of OLS.

The successful passing of these tests confirms that the assumptions of the classical linear regression model are met, lending credibility to the estimated coefficients and their statistical significance.

Results and Analysis

The empirical analysis begins with a summary of the diagnostic tests, followed by the detailed results of the minimalist and lagged regression models for both the pre-crisis and post-crisis periods.

Diagnostic Test Results

The diagnostic tests confirmed the suitability of the OLS model for both analytical periods. As summarized in Table 1, all variables were found to be stationary at levels or first differences, mitigating the risk of spurious correlation. The VIF values were well below the conventional threshold of 5, indicating no significant multicollinearity. White's test showed no evidence of heteroscedasticity, and the Durbin-Watson statistics were close to 2, suggesting the absence of serial correlation. Finally, the Jarque-Bera test confirmed that the residuals were normally distributed. These results provide a solid econometric foundation for interpreting the regression outputs.

Table 1. Summary of Diagnostic Test Results

Test	**Pre-crisis (2000–2007)**	**Post-crisis (2008–2023)**	**Interpretation**
ADF Test	All variables stationary ($p < 0.05$)	All variables stationary ($p < 0.05$)	No risk of spurious regression.
VIF (Max)	1.86	1.92	No multicollinearity detected.
White Test (p-value)	0.49	0.56	Homoscedasticity assumption holds.
Durbin-Watson	2.16	2.05	No first-order serial correlation.
Jarque-Bera (p-value)	0.88	0.74	Residuals are normally distributed.

Minimalist Model Results

The minimalist model provides a baseline understanding of the direct, contemporaneous effects of the fiscal instruments.

Pre-crisis Period (2000–2007):

*GDP_Growth = 15.21 - 0.56 * Tax_Revenue + 0.48 * Public_Investment*

In this period, an increase in tax revenues was associated with a slight decrease in economic growth, while public investment had a positive association. However, neither coefficient was statistically significant (p-values of 0.123 and 0.135, respectively). The model explains 50% of the variance in GDP growth ($R^2 = 0.50$), suggesting that while fiscal policy was influential, other factors also played a significant role during this high-growth phase.

Post-crisis Period (2008–2023):

*GDP_Growth = -26.30 + 1.17 * Tax_Revenue + 0.18 * Public_Investment*

A notable reversal occurred in the post-crisis period. Tax revenue now shows a positive and statistically significant relationship with economic growth (coefficient =

1.17, p-value = 0.089). A one percentage point increase in the tax-to-GDP ratio is associated with a 1.17 percentage point increase in the growth rate. In contrast, the coefficient for public investment became smaller (0.18) and statistically insignificant (p-value = 0.756). The model's explanatory power dropped to 23% (R^2 = 0.23), indicating that in this more volatile period, external factors and non-fiscal policies had a much larger influence on economic outcomes.

Lagged Model Results

The lagged model offers a more nuanced view by accounting for the delayed impact of public investment.

Table 2. Lagged Model Regression Results

Variable	**Pre-crisis (2000–2007)**		**Post-crisis (2008–2023)**	
	Coefficient	**p-value**	**Coefficient**	**p-value**
$Tax\_Revenue_t$	-0.69	0.098*	1.21	0.075*
$Public\_Investment_{t-1}$	0.53	0.045**	0.29	0.481
Intercept	26.74	0.031**	-13.35	0.210
R^2	0.62		0.25	
*Note: * p < 0.10, ** p < 0.05*				

The lagged model provides the clearest insights. In the **pre-crisis period (2000–2007)**, public investment from the previous year ($Public\_Investment_{t-1}$) had a positive and statistically significant effect on current-year growth (coefficient = 0.53, p-value = 0.045). This confirms the hypothesis that investment in infrastructure and other capital projects was a key engine of growth during Albania's initial development phase. Concurrently, tax revenue had a statistically significant negative coefficient (-0.69, p-value = 0.098), suggesting that in an economy with a developing tax administration and high informality, increased taxation may have had a contractionary effect on economic activity.

In the **post-crisis period (2008–2023)**, the dynamic reverses completely. The impact of lagged public investment becomes statistically insignificant (coefficient = 0.29, p-value = 0.481). In stark contrast, tax revenue becomes a positive and significant driver of growth (coefficient = 1.21, p-value = 0.075). This finding is pivotal, indicating a structural transformation where improved fiscal governance and a more formalized economy allowed the state to use revenues not as a drag on growth, but as a tool for stabilization and sustainable public financing.

Discussion

The empirical results reveal a compelling narrative about the evolving social contract in Albania, as reflected through its fiscal policy. The shift in the effectiveness of public investment and taxation between the pre- and post-crisis periods is not merely a technical economic phenomenon; it reflects a deeper change in the state's role and capacity to foster social welfare.

During the pre-crisis period (2000–2007), the strong, positive impact of lagged public investment aligns with the "social investment state" framework (Hemerijck, 2017). In this phase, Albania was focused on building foundational physical and social infrastructure—roads, schools, and basic health facilities. These investments were critical for connecting communities, improving access to education, and laying the groundwork for long-term human capital development. The lagged effect suggests these were not short-term stimulus measures but fundamental, transformative projects whose benefits accrued over time. The negative coefficient on taxation during this era can be interpreted through a social lens as well. In a context of low institutional capacity and high informality, attempts to increase the tax burden may have disproportionately affected nascent formal businesses and lower-income households, thereby dampening the economic activity that underpins welfare improvements.

The post-2008 landscape tells a different story. The diminished and statistically insignificant impact of public investment raises critical questions about public financial management. This finding does not necessarily mean investment ceased to be important, but it suggests a potential decline in its social and economic efficiency. It could reflect a shift towards less productive "prestige" projects, challenges in governance and implementation, or a crowding-out of more effective private investment (Kraay, 2014). From a social welfare perspective, this implies that the returns on public spending, in terms of tangible improvements in public services like education and healthcare, may have been weakening.

Conversely, the emergence of tax revenue as a significant positive driver of growth is a crucial development. This reflects the maturation of Albania's fiscal institutions. A more effective and broader tax base provides the sustainable revenue stream necessary to fund social safety nets, pensions, and public sector salaries without relying on volatile debt financing (IMF, 2020). This fiscal consolidation is a prerequisite for a resilient social welfare system. The positive coefficient suggests that the benefits of a well-funded state—stability, provision of public goods, and increased market confidence—began to outweigh the contractionary effects of taxation. This aligns with international evidence showing that improved tax capacity is fundamental for developing countries to achieve social development goals (Obadic & Globan, 2022).

Ultimately, the analysis suggests a transition from a development model reliant on externally financed public works to one increasingly dependent on domestic revenue mobilization for sustainable social progress. While the pre-crisis model delivered rapid growth, the post-crisis model, though yielding slower growth, points towards a more mature and potentially more equitable fiscal structure capable of weathering external shocks and consistently funding social priorities.

Conclusion

This study set out to analyze the comparative impact of public investment and tax revenues on social welfare, proxied by economic growth, in Albania across two distinct macroeconomic periods. The findings demonstrate a clear structural shift in the effectiveness of these fiscal instruments. In the early 2000s, public investment was the primary engine of development, reflecting a state-led push to build foundational infrastructure. After the 2008 global financial crisis, the locus of fiscal effectiveness shifted towards tax revenue, highlighting the growing importance of fiscal consolidation and administrative capacity in sustaining the state's ability to provide public services and foster a stable economic environment.

The primary contribution of this research is the framing of these economic findings within a broader social science context. The results are not just about fiscal multipliers; they are about the evolving capacity of the Albanian state to translate economic policy into social outcomes. The journey from an investment-driven to a revenue-supported model is indicative of a maturing state apparatus, one that is slowly building the institutional bedrock required for a modern social welfare system.

Policy Recommendations

Based on these findings, several policy recommendations can be made:

1. **Enhance the Social Return on Public Investment:** Policymakers should move beyond simply allocating funds and focus on the efficiency and social impact of public projects. This requires implementing rigorous, transparent cost-benefit analyses with a specific focus on social and environmental returns, particularly for investments in education, healthcare, and green infrastructure.
2. **Strengthen and Equitably Design the Tax System:** While improved tax collection has been beneficial, the focus must now be on the fairness and progressivity of the tax system. Efforts to broaden the tax base and reduce informality should continue, but they must be paired with policies that protect vulnerable households and ensure that the fiscal burden is distributed equitably.
3. **Integrate Fiscal Policy with Social Goals:** Fiscal strategy should be explicitly linked to national social development objectives. This means earmarking

revenues for critical sectors like education and health and using the national budget as a tool to reduce inequality and promote social inclusion.

Limitations and Future Research

This study is subject to certain limitations. The use of real GDP growth as a proxy for social welfare is an approximation; future research could employ more direct indicators such as the Gini coefficient, poverty rates, or public education and health expenditures, should consistent long-term data become available. Furthermore, the analysis does not control for other external factors like remittances or foreign direct investment, which undoubtedly interact with fiscal policy. Future studies could use more advanced econometric models, such as Vector Autoregression (VAR), to explore these complex interdependencies. Nonetheless, this paper provides a crucial, evidence-based foundation for understanding the dynamic role of fiscal policy in shaping the socio-economic landscape of a transition economy.

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