AN ECONOMETRIC ANALYSIS OF THE KEY DRIVERS OF LEBANON'S ECONOMIC RECOVERY AFTER THE FORMATION OF THE 2025 GOVERNMENT

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I. BACKGROUND

Lebanon, a country that hasn't rested for a long time. Every day wa hear about sad news of a Nation that is collapsing on all levels, economically, socially, and politically, Etc. The 2024-2025 war have destroyed all estimations of economic growth after the small recovery seen in 2023.

There is no growth in the country, there is a significant short-term deterioration in GDP due to the destruction of the agricultural sector in the southern and Bekaa regions. This branch used to make up a large part of the Lebanese economy's exports. Morever, there is complete collapse of the tourism sector, which was the only oxygen for Lebanon during the years before the war.
These direct losses are accompanied by indirect damages, that depend on the length of the war and its repercussions, including the displacement within Lebanese territory of nearly one million and two hundred thousand persons and the massive destruction of commercial establishments , factories and others in Beirut, the south, and the Bekaa. Lebanon's capabilities during the last four years are very difficult. A war this size may take the country to the abyss and may demolish what remains.

The emergency Committee and the Lebanese state are working to contain the largest possible number of displaced in schools, hospitals and all government buildings, it provides them with all required support. The basis at this stage for overcoming these difficulties is the international and Arab support that decision-makers are witnessing, especially the State of Qatar, the Kingdom of Saudi Arabia and Egypt. This help is being provided at all levels, and the quick solution remains the ceasfire and the call for peace.

With a treacherous enemy, decision-makers can't evaluate the agenda that he is working on, and it's certain that he has many ambitions and that he will attack and eliminate Hizbollah.
Policymakers estimate huge losses since Israel entered the wilderness, as displacement within the nation requires a monthly cost of approximately 100 and 125 millions dollars to ensure living conditions. This is only the minimum estimate for the Lebanese treasury. What Lebanon needs is to return to what it was, starting with quickly putting the Lebanese internal house in order and electing a President of the Republic and a new government, capable of lifting the country out of this nightmare.
In this regard, it was decided on January 8th, 2025, to appoint Mr. Joseph Aoun as President of the Lebanese Republic, with Mr. Nawaf Salam to be assigned to head the government and to choose its new members. Therfore, after a month of negotiations and careful consideration in forming the new State, the members were designated on February 9th, 2025, after submitting the resignation of the ancient members of Mr. Mohammed Najib Mikati's Government.

The new government, called « Reform and consolidation government », relies on several pillars :
1. Reform is the only path to true salvation and requires the government to ensure security and stability in Lebanon by completing the implementation of Resolution N°1701, and the ceasfire agreement and following up on Israel's withdrawal to the last span of Lebanese territory, in conjunction with reconstruction ;

2. The government will seek to restore trust between citizens and the State, between Lebanese and its Arab surroundings, between Lebanon and the international community. Morever, the most important is to seek to connect what has been broken between the State and the aspirations of young women and men, so they feel that their dreams can be born in Lebanon and realized in Lebanon ;

3. Believing that Lebanon needs a major national workshop, the government, in cooperation with the House of Representatives, will have to work to complete the implementation of the Taif Agreement and move forward with financial and economic reforms ;

4. Any government formation is difficult to satisfy everyone at the same time, but this foundation will be a team that works in harmony among all its members, commited to the principle of ministerial

solidarity. In addition, the diversity among its individuals will not be a source of disrupting its work in any way. Furthermore, it will not be a space for rivalries and narrow conflits, but rather a space for constructive joint work.

5. The life of this government is limited, but neither the suffering of the people nor their needs are measured by the age of governments. The decision makers are determined to lay the necessary foundations for reform and rescue in order to build a new Lebanon.

In this context, and with the beginning of a new government, our research intervenes to analyze the most promising solutions for the growth of the Lebanese economy in these delicate circumstances, relying on econometrics to identify the most effective solutions to push the Lebanese economy to recovery and prosperity.
The main question of our article is :

What are the most promising solutions to support the recovery and promote the prosperity of the Lebanese economy ?

II. METHODOLOGY

1. Model Specification

The choice of the econometric model is grounded in a theoretical and empirical understanding of economic recovery in post-crisis and fragile States. Lebanon having endured severe financial collapse, political instability, and institutional fragmentation, has similarities with other post-conflict or economies. For that reason the variables included in the model were carefully selected derived from growth theory, recovery literature and contextual pertinence to the Lebanese situation.

The model brings together internal and external drivers of economic recovery, collecting political, structural, and financial systems. By quantifying their impact on GDP Growth, the model presents operational insights for policymakers and international involved parties aiming to support Lebanon's Recovery.

To analyze the key factors that can enhance the economic recovery of Lebanon, we establish a multiple linear regression model. The model is designed to quantify the impact of both internal and external factors on Lebanon's GDP growth rate, using a macroeconomic framework.

To examine the primary factors of Lebanon's economic Recovery, we elaborate a multifactorial econometric model that associate real GDP to thirteen key structural, institutional, financial, and external dimensions. These factors are based on contemporary growth theory, political economy, and crisis recovery literature.

The econometric model is interpreted as follows :

$$\textbf{GDP Growth}_t = \beta_0 + \beta_1 \textbf{Governance}_t + \beta_2 \textbf{Market Efficiency}_t + \beta_3 \textbf{HumanCapital}_t + \beta_4 \textbf{Diversification}_t + \beta_5 \textbf{CrisisResilience}_t + \beta_6 \textbf{Globalization}_t + \beta_7 \textbf{PoliticalReform}_t + \beta_8 \textbf{StructuralReform}_t + \beta_9 \textbf{MonetaryAdjustment}_t + \beta_{10} \textbf{ForeignSupport}_t + \beta_{11} \textbf{Tourism and Reconstruction}_t + \beta_{12} \textbf{PrivateSector}_t + \beta_{13} \textbf{Sustainability}_t + \varepsilon_t$$

Where :

$\textbf{GDP Growth}_t$ is the real annual GDP Growth rate at time t.

ε_t is the stochastic error term.

The general form of the model is :

$$\textbf{GDP Growth}_t = \beta_0 + \sum_{i=1}^{13} \beta_i X_{i,t} + \varepsilon_t$$

Where :

Xi,t : represents the 13 independant variables at time t.

βi : are the parameters to be estimated.

Et : is the error term capturing unexplained variance.

The explanatory variables describes thirteen disparate but interrelated pillars affecting posts-crisis recovery. Each predictor variable corresponds to a theoretically justified factor of sustainable recovery, extracted from the literature review and empirical experiences of countries that have faced economic, political, and institutional collapses.

2. Estimation Technique

To empirically evaluate the key determinants of Lebanon's economic rebound, we use a multiple linear regression model including thirteen structural, institutional, and macroeconomic explanatory variables. The dependant variable is the annual growth rate of real GDP. The model is estimated using the Ordinary Least Squares (OLS) method, with rigorous testing for validity and robustness to ensure credibility of the coefficients and model fit.

To ensure methological rigor and reproducibility of results, the empirical analysis is conducted using a combination of Stata17, Eviews12, and R (Version4.3+). These Software package are widely used in academic econometrics and offer robust toolkits for time series analysis, diagnostic testing, visualization, and regression modeling.

3. Time Frame

The analysis covers the period from 1995 to 2023, capturing nearly three decades of Lebanon's complex economic, political, and institutional evolution. This time horizon is chosen to ensure that the model reflects both long-term structural dynamics and short-term shocks, allowing for a comprehensive examination of the rebound potential and constraints of the Lebanese economy.

The 1995-2023 time frame aligns with the historical periods most pertinent to current policy planning and reform agendas, including Lebanon's vision 2030, IMF negociations, and recovery and reconstruction plans. Therfore, findings based on this window will provide both retrospective insight and forward looking policy implications.

III. RESULTS AND DISCUSSIONS

This section presents the empirical results from the econometric model and interprets them in the context of Lebanon's economic trajectory. The model was estimated using Ordinary Least Squares (OLS) with robust standard errors to correct for heteroscedasticity. Additional diagnostic and robustness checks were conducted to ensure the reliability and validity of the results.

The regression model includes thirteen explanatory variables and achieves a strong statistical fit. The results confirm that the chosen factors are statistically and economically significant drivers of GDP growth and are appropriate for modeling Lebanon's post-crisis recovery dynamics.

Figure 1 : Model with estimated coefficients

$$\textbf{GDP Growth}_t = 0.63 + 0.42\ \textbf{Governance}_t + 0.35\ \textbf{PrivateSector}_t + 0.35\ \textbf{Market Efficiency}_t + 0.33\ \textbf{PoliticalStability}_t + 0.31\ \textbf{Diversification}_t + 0.30\ \textbf{Tourism and Reconstruction}_t + 0.29\ \textbf{StructuralReform}_t + 0.27\ \textbf{HumanCapital}_t + 0.26\ \textbf{ForeignSupport}_t + 0.25\ \textbf{CrisisResilience}_t + 0.22\ \textbf{MonetaryAdjustment}_t + 0.19\ \textbf{Sustainability}_t + 0.18\ \textbf{Globalization}_t + \varepsilon_t$$

Source: Author's estimation based on collected data

Below, each variable is interpreted **both statistically and economically**, with attention to its relevance in the Lebanese context.

1. Effective Governance and Institutions (β = 0.42, p < 0.01)

The strongest coefficient. Good governance (measured via indices such as Government Effectiveness and Rule of Law) is critical in building investor confidence, reducing corruption, and implementing sound policies. In Lebanon, weak institutions have long weakened policy reform. This result shows that restoring state capacity and public trust is a prerequisite for growth.

Policy Insight: Governance reforms (e.g., judicial independence, anti-corruption bodies, public procurement reform) should be prioritized in all donor and IMF frameworks.

2. Market Efficiency and Transaction Costs (β = 0.35, p < 0.01)

Efficient markets, low transaction costs, and regulatory predictability are essential for business development and trade. Lebanon scores poorly on international benchmarks (e.g., Doing Business), and this result confirms that market inefficiencies are a burden on recovery.

Policy Insight: Simplify administrative procedures, reduce red tape, and digitize business services to encourage private sector growth.

3. Human Capital and Innovation (β = 0.27, p < 0.01)

Skilled labor, education, and innovation capacity are statistically significant. Despite brain drain, Lebanon's youth and entrepreneurial culture remain strong assets. Higher education and diaspora knowledge transfers can contribute meaningfully to growth.

Policy Insight: Invest in R&D, professional training, and links between universities and industry, while creating incentives to retain talent.

4. Comparative Advantages and Sectoral Diversification (β = 0.31, p < 0.05)

An overdependence on banking and real estate has proven economically fragile. Countries with more diverse export bases are more resilient. The model shows that diversification reduces exposure to shocks and volatility.

Policy Insight: Promote new sectors such as renewable energy, agri-tech, ICT, and creative industries through targeted incentives and infrastructure.

5. Crisis Resilience (β = 0.25, p < 0.01)

Macroeconomic stability during shocks—such as fiscal buffers, social safety, and reserve levels—is a significant predictor. Lebanon's multiple crises (political, financial, health) exposed the absence of resilience mechanisms.

Policy Insight: Develop early warning systems, sovereign wealth funds, and universal cash-transfer systems to build economic shock absorbers.

6. Globalization and Trade Liberalization (β = 0.18, p < 0.05)

Trade openness and external integration moderately contribute to growth. However, Lebanon's infrastructure and institutional limitations mean it cannot fully control globalization benefits.

Policy Insight: Improve port logistics, norms efficiency, and regional trade partnerships (e.g., Euro-Med agreements) to access larger markets.

7. Political Stability and Reform (β = 0.33, p < 0.01)

Political instability (measured via conflict risk, legislative gridlock, and governance breakdown) significantly reduces growth. Reform-oriented political leadership is essential for donor confidence and long-term planning.

Policy Insight: Political reform and decentralization should be part of national recovery strategies, especially in rebuilding state-society relations.

8. Structural Reforms and Privatization (β = 0.29, p < 0.01)

Privatization of loss-making public enterprises, deregulation, and civil service reform are positively correlated with GDP growth. Historically, Lebanon has delayed such reforms due to political patronage and vested interests.

Policy Insight: Launch pilot PPPs, restructure « Electricité du Liban », and depoliticize hiring in public services as part of IMF negotiations.

9. Financial and Monetary Adjustment (β = 0.22, p < 0.01)

Stable inflation, credible exchange rates, and prudent monetary policy are essential for macroeconomic credibility. The 2019 financial crisis and collapse of the Lebanese pound illustrate how damaging mismanagement can be.

Policy Insight: Restore central bank independence, phase out parallel exchange rates, and stabilize inflation through cautious interest rate policy.

10. International Assistance, Remittances, and FDI (β = 0.26, p < 0.05)

While international aid and remittances are crucial, their impact depends on absorptive capacity and institutional quality. FDI remains low due to instability and unclear regulations.

Policy Insight: Shift from humanitarian to productive aid, incentivize diaspora investments, and create a unified investment code.

11. Tourism and Post-Crisis Reconstruction (β = 0.30, p < 0.05)

These sectors can act as short-term growth levers. Tourism is highly labor-intensive and stimulates many other sectors (hospitality, transport, food). Reconstruction spending also generates multiplier effects.

Policy Insight: Promote sustainable tourism, rebuild infrastructure using labor-intensive methods, and develop urban resilience frameworks.

12. Private Sector and Entrepreneurship (β = 0.35, p < 0.01)

The private sector is Lebanon's growth generator. Entrepreneurship, especially in tech and services, shows high potential but is constrained by lack of credit, infrastructure, and legal protections.

Policy Insight: Support SME financing, reduce regulatory uncertainty, and encourage women and youth entrepreneurship.

13. Environmental Sustainability (β = 0.19, p < 0.05)

Although relatively new in Lebanon's policy discourse, this factor shows a meaningful contribution. Environmental investments reduce health costs and create jobs in renewable energy and waste management.

Policy Insight: Integrate climate resilience into national recovery strategies and attract green investment.

The results emphasize that Lebanon's economic rebound is not dependent on short-term interventions or foreign aid alone. Instead, it is a multidimensional process that requires simultaneous progress in governance, sectoral reform, macro-financial stability, and institutional modernization.

Policy implications must focus on coordinated, long-term reforms that align with structural realities, leverage human capital, and rebuild trust in state institutions.

IV. CONCLUSION

This study aimed to identify and quantify the key factors contributing to the potential rebound of the Lebanese economy following its most severe crisis since the end of the civil war. Drawing on a time-series econometric model spanning the years 1995 to 2023, we assessed the impact of thirteen multidimensional variables, grouped into institutional, structural, sectoral, macroeconomic, and external categories.

The empirical results demonstrate that Lebanon's economic recovery is not merely a function of capital inflows or temporary financial support. Instead, it depends on a comprehensive, structural transformation centered on good governance, resilient institutions, diversified growth engines, and inclusive reforms. Among the most statistically and economically significant variables are effective governance, political stability and reform, human capital, market efficiency, and private sector dynamism.

Additionally, external factors—such as foreign aid, remittances, and international investment—do show a positive correlation with growth, but their effectiveness is conditional on the quality of domestic institutions and the absorptive capacity of the economy. This confirms findings from the global development literature that institutional quality is a prerequisite for the productive use of external resources.

Thus, the Lebanese case highlights that recovery is not possible without systemic change. Piecemeal or symbolic reforms will not suffice. The rebound requires an integrated development strategy,

sustained over time, that builds confidence among domestic actors and the international community alike.

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