Belize Mid-Term Fiscal Framework

A mid-term fiscal framework allows a country to plan the government's revenue and expenditure targets over a specified period, typically ranging from three to five years. In this case, for Belize, such a framework will help promote fiscal sustainability, accountability, and transparency, while ensuring that the government's budgetary policies are aligned with its long-term objectives. This framework would set out clear fiscal rules that guide government decision-making, such as limits on the budget deficit and debt-to-GDP ratios and establish mechanisms for monitoring and reporting on progress towards achieving these goals. Ultimately, a mid-term fiscal framework would provide a roadmap for managing Belize's public finances in a responsible and sustainable manner, while also promoting economic growth and development, the following paragraphs outline the advantages that a well-developed mid-term fiscal framework can provide toa country.

A midterm fiscal framework is a planning and budgeting tool that sets out medium-term fiscal targets, strategies, and policies. It is an important framework for governments and other entities to ensure sustainable public finances and macroeconomic stability. It helps to ensure fiscal discipline and prevent over-reliance on short-term budgeting. By setting out medium-term targets and strategies, policymakers can avoid the temptation to focus solely on short-term goals, which can lead to unsustainable fiscal policies.

Additionally, it can contribute to macroeconomic stability by ensuring that such fiscal policies are consistent with long-term economic growth and stability. Developing a clear plan for managing public finances over the medium term allows policymakers to reduce uncertainty and increase investor confidence, which at the same time promotes transparency and accountability in public finances. Therefore, it makes policymakers accountable for achieving their goals and managing public finances in a responsible and transparent manner.

Likewise, a midterm fiscal framework can help improve policy coordination and coherence across different sectors and levels of government. By aligning fiscal policies with broader economic and social objectives, policymakers can ensure that public resources are used efficiently and effectively.

Furthermore, it can help identify and manage fiscal risks, allowing to develop strategies to mitigate these risks and ensure the sustainability of public finances.

In summary, a midterm fiscal framework is an important tool for promoting fiscal discipline, economic stability, transparency, accountability, policy coordination, and risk management. It is essential for governments and other entities to adopt a medium-term perspective in their budgeting and planning to ensure sustainable public finances and a stable macroeconomic environment.

Therefore, to estimate relevant fiscal variables there are several available methods, including the extrapolation system, which assumes that past trends will continue without considering the factors affecting tax revenue.

The direct method, on the other hand, incorporates the effects of fiscal policy decisions and economic variables by analyzing historical collection data.

Econometric methods use statistical tools and mathematical models to analyze and understand economic phenomena. It applies statistical techniques to quantify and test economic theories and hypotheses, and to estimate and forecast economic relationships and outcomes. And the last method, based on elasticity, refers to the sensitivity of one variable to changes in another, for instance, an increase in the economy's income level may result in an increase in tax collection even if the tax rates remain unchanged.

The framework that will be used in this analysis is based on the econometric approach. By using econometric techniques, we can better understand the underlying economic factors that affect these relationships and make more informed predictions about future economic outcomes. This framework will allow us to rigorously test economic hypotheses, identify causal relationships, and provide evidence-based recommendations for economic policy.

The econometric approach can be advantageous for developing a mid-term fiscal framework in several ways:

* Quantitative Analysis: The econometric approach is a quantitative analysis method that uses statistical techniques to analyze economic data. This enables policymakers to identify trends, forecast future economic conditions, and estimate the potential impact of policy changes on the economy.
* Data-Driven Decision Making: Econometric models can provide policymakers with evidence-based insights into the likely consequences of policy decisions. This helps to ensure that decisions are based on objective analysis rather than subjective opinions or political biases.
* Scenario Analysis: Econometric models can be used to analyze the potential impact of different policy scenarios on the economy. This allows for testing of the robustness of their policy proposals and identify potential risks or unintended consequences.
* Transparency: The econometric approach is a transparent method of analysis that allows policymakers to explain their decisions to stakeholders and the public in a clear and concise manner. This can help to build trust and credibility with the public.
* Improved Forecasting: Econometric models can provide policymakers with more accurate forecasts of economic conditions, which can help them to make better-informed policy decisions. This is particularly important for developing a mid-term fiscal framework, as it requires policymakers to make projections several years into the future.

Overall, the econometric approach can help policymakers to develop a more robust and evidence-based mid-term fiscal framework that considers a range of economic factors and potential policy scenarios.

Consequently, to achieve the econometric approach, the analysis provided below is based on information provided by the Central Bank of Belize and is reported in current prices. Current prices refer to the market value of goods and services at the time they were produced or sold, without adjusting for inflation or changes in purchasing power over time. This means that the figures presented in the analysis reflect the actual prices paid for goods and services in the Belizean economy at the time they were or will be purchased or sold. It is important to note that the use of current prices in economic analysis can provide a more accurate representation of the current economic environment and its impact on consumers and businesses.

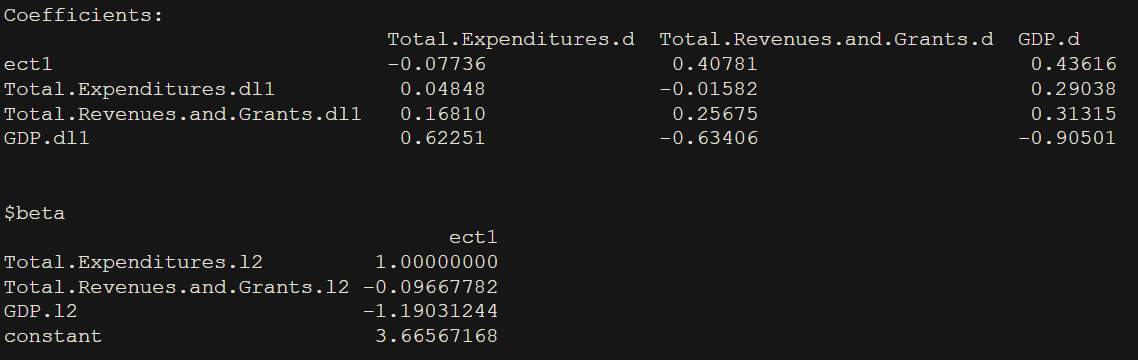
To achieve proper forecasting, we make use of the Johansen methodology for cointegration, which provides a statistical technique that helps to understand the long-term relationships between multiple variables that are moving together over time; Belizean revenues, expenditures and GPD in this case. It is used to determine if there is a common trend among the variables, and if so, how many common trends there are. This is important because if two variables are cointegrated, it means that they share a common long-term trend and cannot be considered as independent. The Johansen methodology allows us to estimate the strength of the relationship between the variables and how they are related to each other in the long run, helping to identify the underlying factors that affect them. Overall, it is a useful tool for analyzing complex economic data and making predictions about future trends.

To be more precise, the Johansen methodology estimates the parameters of a VAR model for a given set of time series variables and uses maximum likelihood methods to determine the number of cointegrating relationships among them. The technique involves a two-step process:

* Estimation of the unrestricted VAR model: The first step involves estimating the parameters of an unrestricted VAR model, which allows for each variable to be influenced by its own lagged values and those of the other variables in the system. This provides an estimate of the common trends that are present among the variables.
* Rank determination: The second step involves determining the rank of the cointegrating matrix, which represents the number of cointegrating relationships present among the variables. This is done using likelihood ratio tests that compare the fit of VAR models with different numbers of cointegrating relationships.

Once the rank of the cointegrating matrix is determined, the Johansen methodology provides estimates of the cointegrating vectors, which represent the long-run relationships between the variables. These vectors can be used to test hypotheses about the relationships among the variables and to forecast their future values.

In this case, the estimated equations for the VEC model are given below:



The following tables state the estimated financial situation based on the forecasts obtained by the previously shown model.

# VAR results

**Table 1: Estimated Financial Situation %GDP**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Description** | **Observed** | **Forecasted** | | | | |
| 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
| **Total Revenue and Grants** | 26.25% | 29.21% | 28.80% | 30.10% | 31.61% | 32.16% |
| **Current Revenue** | 19.43% | 21.62% | 21.31% | 22.27% | 23.39% | 23.80% |
|  |  |  |  |  |  |  |
| **Total Expenditure** | 26.76% | 26.69% | 24.88% | 26.99% | 26.95% | 26.75% |
| **Current Expenditure** | 24.89% | 24.83% | 23.13% | 25.10% | 25.07% | 24.88% |
|  |  |  |  |  |  |  |
| **Balance** | -0.50 | 2.52 | 3.92% | 3.11 | 4.66 | 5.40 |
| GDP - Current Prices | 5140 | 4817 | 5106 | 5120 | 5099 | 5242 |
|  |  |  |  |  |  |  |

**Table 2: Expected Financial Situation million of $BZ**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Description** | **Observed** | **Forecasted** | | | | |
| 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
| **Total Revenue and Grants** | 1350 | 1407 | 1470 | 1541 | 1612 | 1686 |
| **Current Revenue** | 999 | 1041 | 1088 | 1140 | 1193 | 1247 |
|  |  |  |  |  |  |  |
| **Total Expenditure** | 1375 | 1286 | 1270 | 1382 | 1374 | 1402 |
| **Current Expenditure** | 1279 | 1196 | 1181 | 1285 | 1278 | 1304 |
|  |  |  |  |  |  |  |
| **Balance** | -26 | 121 | 200 | 159 | 237 | 283 |
| GDP - Current Prices | 5140 | 4817 | 5106 | 520 | 5099 | 5242 |

Figure 1: Total Revenue fanchart

Figure 2: Total Expenditures fanchart

Figure 3: GDP fanchart

# VEC results

**Table 3: Expected Financial Situation %GDP**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Description** | **Observed** | **Forecasted** | | | | |
| 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
| **Total Revenue and Grants** | 26.25% | 25.26% | 25.02% | 24.93% | 25.04% | 24.99% |
| **Current Revenue** | 19.43% | 18.70% | 18.51% | 18.45% | 18.53% | 18.49% |
|  |  |  |  |  |  |  |
| **Total Expenditure** | 26.76% | 27.60% | 27.82% | 27.10% | 27.11% | 27.04% |
| **Current Expenditure** | 24.89% | 25.67% | 25.87% | 25.21% | 25.21% | 25.14% |
|  |  |  |  |  |  |  |
| **Balance** | -0.50% | -2.33% | -2.80% | -2.17% | -2.07% | -2.05% |
| GDP - Current Prices | 5140 | 5242 | 5250 | 5367 | 5430 | 5489 |
|  |  |  |  |  |  |  |

**Table 4: Expected Financial Situation million of $BZ**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Description** | **Observed** | **Forecasted** | | | | |
| 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
| **Total Revenue and Grants** | 1350 | 1324 | 1314 | 1338 | 1360 | 1372 |
| **Current Revenue** | 999 | 980 | 972 | 990 | 1006 | 1015 |
|  |  |  |  |  |  |  |
| **Total Expenditure** | 1375 | 1447 | 1460 | 1455 | 1472 | 1484 |
| **Current Expenditure** | 1279 | 1345 | 1358 | 1353 | 1369 | 1380 |
|  |  |  |  |  |  |  |
| **Balance** | -26 | -122 | -147 | -117 | -112 | -113 |
| GDP - Current Prices | 5140 | 5242 | 5250 | 5367 | 5430 | 5489 |
|  |  |  |  |  |  |  |

Figure 4: Total Revenue fanchart

Figure 5: Total Expenditures fanchart

Figure 6: GDP fanchart