

Analysing the Determinants of 10-Year Government Bond Yield in Sri Lanka

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Introduction

The government security market is one of the most fundamental alternate sources of financing which is a debt instrument issued in the form of Treasury Bills and Treasury Bonds by the Sri Lankan state government through the Central Bank of Sri Lanka to raise money for public spending. The yield of the bonds reflects the government's cost of borrowing and it can act as an indicator of the country's macroeconomic health. The yield of long-term government securities plays a vital role in shaping a country's debt sustainability, guiding investor behaviour, and influencing the transmission of monetary policy. In the Sri Lankan context, the 10-year government bond yield is a key benchmark for market expectations regarding inflation, interest rates, and fiscal credibility.

Given the country's fiscal and monetary developments between 2015 and 2024—including high inflation, exchange rate fluctuations, and debt restructuring efforts—understanding the underlying factors that influence long-term yields has become increasingly important. This research seeks to fill this gap by identifying and examining the determinants that affect the 10-year government securities yield in Sri Lanka thereby contributing to both academic literature and policy formulation.

Objectives

Primary objective of this study is to identify the relationship between macroeconomic and financial variables with the yield of long-term government securities with 10-year maturity over the period of 2015–2024. The secondary objective is to identify the short-run and long-run dynamic relationship between the variables.

Methodology

The proposed research mainly draws theoretical inspiration from two specific studies. One from the study done by Yusuf and Prasetya (2019) on Indonesian bonds where, Inflation and Exchange rate are studied and the second from the study done by Sihombing et al (2014), where the All Share Price Index, Index of Industrial Production, bank rate and budget deficit are studied. The study adopts descriptive statistics as well as econometric analysis. Augmented Dickey-Fuller (ADF) unit root test is employed to check for stationary in data. Further, Hannan-Quinn information criterion (HQIC), Schwarz information criterion (SC), Final Prediction Error (FPE) and Akaike Information Criterion (AIC) are considered for lag length selection. The Johansen Cointegration test is used to check cointegrating relationship among variables and the causality relationship is examined using the Granger Causality Test. A Vector Error Correction Model (VECM) is employed to understand the complex dynamic interrelationship between variables.

Table 1: Variables and the Definitions

Variable Code	Description of Variable
10YD	Sri Lankan 10-year Bond Yield (Monthly Avg.)
CCPI	The YoY change in Colombo Consumer Price Index as a proxy of Inflation
ln_IIP	The log variation of the Index of Industrial Production as a proxy for monthly real economic output
BR	Bank Rate {(Standard Lending Facility Rate+ Standard Deposit Facility Rate)/2.}
ln_USDLKR	The log variation of the USD to LKR Exchange Rates (Monthly Avg.)
ln_ASPI	The log variation of the All Share Price Index (1985=100)
BB	Overall Budget Balance for the Month

Results and Discussions

According to the test results inflation, exchange rate and budget balance have a statistically significant positive short-run effect on bond yields. However, there is no meaningful short-run relationship between the bond yield and Index of Industrial Production. It also shows that bond yield has a slight negative effect on Bank rate and a significant negative effect on Share Market behaviour. In the long-run, inflation, Bank rate and Index of Industrial Production fail to establish a cointegrating relationship with Bond Yield. However, Bank Rate shows a negative relationship with bond yield while Budget balance and Exchange rates continue to have a positive relationship with bond yield in the long-run continuing the characteristics of the short-run.

Table 2: Summary Results of the VECM

Variable	Short-Run Effect on <i>Bond Yield</i>	Long-Run Effect on <i>Bond Yield</i>
Inflation	Significant Positive Relationship	Not Significant
Exchange Rate	Significant Positive Relationship	Significant Positive Relationship
Budget Balance	Significant Positive Relationship	Significant Positive Relationship
Share Market	Significant Negative Relationship	Not Significant
Bank Rate	Slight Negative Relationship	Significant Negative Relationship
Index of Industrial Production	Not Significant	Not Significant

Overall, the independent variables (CCPI, IIP, BR, USDLKR, ASPI and BB) all-together explain 74.34% of the short-term variations in bond yield in testing the fitness using the Vector Error Correction Model.

Table 3: Model Characteristics

R-Squared	0.7434
Chi ²	248.4514
P>Chi ²	0.0000

The model manages to pass the serial correlation test and heteroskedsticity for all variables except the ASPI and BB. It also shows a probability value of 0.0483 for the Normality test falling just short of the 5% significance level.

The Granger Causality test shows that CCPI, ln_USDLKR and ln_ASPI have a bidirectional relationship with 10_YD while ln_IIP and BR definitely cannot cause 10_YD and only have a one-way relationship.

Conclusion and Policy Recommendations

In the short run, inflation, exchange rate, budget balance, stock market performance and bank rate showed significance with the bond yield while the industrial production was insignificant. In the Long-run, exchange rate, budget balance and bank rate showed significance while other variables did not have a significant relation with the bond yield.

From a policy perspective, the study suggestes that there is indept reserch needed to study crucial insight into how macroeconomic and financial variables influence Sri Lanka's long-term government security market. This understanding helps monetary and fiscal authorities in aligning interest rates and debt management strategies with broader macroeconomic goals, enhancing the effectiveness of policy responses to economic instability. For investors, especially those active in the fixed-income market and engaged with government securities investments, the study supports informed decision making by clarifying the dynamics of the yield curve that is crucial for risk assessment, pricing and investment portfolio optimization.

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