The Term Structure of Interest Rate in a New Keynesian Model Framework

Parto kiyanpor[1], Abas Aminifard[2], Hashem Zare[3], Mehrzad Ebrahimi[4]

Received: 2018/12/13 Accepted: 2020/06/13

Abstract:

The time structure of the interest rate or yield curve represents the relationship between the time remaining to maturity and the yield on Islamic Treasury Bills. Islamic Treasury Bills are registered documents that are transferred to non-government creditors by the government to settle its confirmed debts by maintaining the purchasing power for capital asset acquisition plans with a nominal price and fixed maturity date and the recipients of treasury bills can sell these bonds in the new financial instruments market of Iran's Fara Bourse. The main difference between these documents and other securities comes from their maturity date and interest payments. These bonds generally have a maturity date of less than a year. Islamic Treasury Bills are profitless and will have no midterm payment known as interest and investors will benefit from the difference between the purchase price of the bonds and the par value received at the maturity date. Bond holders receive the nominal amount from the government at the maturity date. Since Iran's Department of Treasury has undertaken to pay the nominal amount of these documents at maturity, they are called risk-free bonds. In fact, the Department of Treasury of all countries has minimum risk in fulfilling its obligations and can pay its debts on time with great certainty due to the backing it receives from the taxes collected from the society. Islamic treasury bills also appear to be the most important tool in the money market to apply monetary policies and have a high degree of liquidity. The present study pertains to the term structure of

[1] Phd Student, Department of Economics , Shiraz Branch, Islamic Azad University, Shiraz, Iran.

[2] Assistant Professor, Department of economics , Shiraz Branch, Islamic Azad University, Shiraz, Iran. (Corresponding Author). (aaminifard@yahoo.com)

[3] Assistant Professor, Department of economics, Shiraz Branch, Islamic Azad University, Shiraz, Iran:

[4] Assistant Professor, Department of economics , Shiraz Branch, Islamic Azad University, Shiraz, Iran.

Iran’s interest rate base on a New Keynesian model from 1994: Q1-2016: Q4. This study has attempted to investigate this issue using the vector autoregression (VAR) model. VAR analysis tools include the impulse function and variance decomposition. In this study, the Hodrick- Prescott filter method has been used to determine the invisible values of the expected inflation rate and potential output. According to the findings of this research, the variable coefficient of expected inflation and past inflation is significant, indicating that firms are both forward- and backward-looking in setting their prices, but the lagged inflation coefficient is higher than the expected inflation coefficient, indicating that firms pay more attention to past inflation in determining their current price levels. The effect of inflationary shock on the 3-month interest rate, 6-month interest rate and 6-month risk premium is positive and significant and the effect of the output shock on the one-year interest rate is negative and insignificant. Also, Taylor rule estimation results indicated that the values of the output gap and the forward-looking inflation expectations are positive and significant at 0.32 and 0.21 respectively. According to the results of this estimation, the reaction of the monetary authorities to the production gap is consistent with the Taylor rule, while this reaction is not concordant with inflation expectations.
JEL classification**:** C32, E43, E44. E52, G12

Keywords: Vector Autoregressive, Term structure of interest rate, New Keynesian Model, Monetary policy, risk premium