

IMPACT OF POLITICAL REGIME CHANGE ON GOVERNMENT SECURITIES YIELD AND YIELD CURVE: A STUDY OF INDIAN GOVERNMENT SECURITIES MARKET

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Abstract

The paper analyses the impact of political regime change from United Progressive Alliance (UPA) to National Democratic Alliance (NDA) on the short, medium, and long-term government securities' yield and slope, level, and the curvature of yield curve. Data on government securities yield is extracted from the Reserve Bank of India's database on Indian economy. Results show that average yields of all the maturities, slope, level, and curvature are higher during the NDA regime than in the UPA regime. Results also show that during NDA, the standard deviation increases for one, five, ten-year G-Secs' yield and level and decreases for 15-91 days' treasury bills yield, slope, and curvature. This increase or decrease is significant, as shown by the p-values of the F-test, except for 15-91 days' treasury bills yield. The results also state that excluding slope, the impact of political regime change is significant on the average yield of all maturities and yield curve.

Key Words: Regime Change, Government Securities Yield, Slope, Level and Curvature, Yield Curve.
JEL Classification: E42, E43, E44

1. INTRODUCTION

The Indian government securities (G-Secs) market has undergone a significant change in the last two decades. From low liquidity, segmentation, a barrier to entry, lack of transparency, and physical bonds, the Indian G-Secs market is moving towards a developed debt market. The G-Secs market has become quite reformed and now focuses on screen-based trading, a high degree of transparency, high liquidity, low transaction cost, and improvement in disseminating information to make the market more transparent, liquid, and secure investors. To finance the fiscal deficit, governments worldwide generally raise funds from the debt markets through G-Secs with the help of central banks. Further, being a part of the economy, the G-Secs market is affected by the change in the political and economic environment in the country. The study focuses on the impact of the political regime change on yield in the G-Secs market. Two major political regimes, namely United Progressive Alliance (UPA) led by Indian National Congress (INC) and National Democratic Alliance (NDA) led by Bhartiya Janata Party (BJP), dominate Indian politics. This change from UPA to NDA in India may have an impact on the economic policies, including the borrowing cost of the government reflected in the government securities yield. Because of regime change, changes in the country's monetary, fiscal, and other policies may have varied impacts on the macroeconomic variables like debt to GDP, inflation, fiscal deficit, etc. Scholars namely Alesina et al. (1992), Guscina (2008), and Blinder and Watson (2014) have remarked that factors such as regime change also influence the economic fundamentals of an economy. This subsequently may affect the borrowing cost and yield on the G-Secs. Thus, the objective of the study is to examine the effect of regime change and on short, medium, and long-term G-Secs yield and curvature, level, and slope of the yield curve (YC) in the Indian G-Secs market.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Literature confirms that any change in governments in any country significantly influences its economic policies (Clara and Valkano, 2003; Comiskey and Marsh, 2012; Blinder and Watson 2014). Studies such as Aisen and Veiga, 2011; Alesina et al. 1992 find that factors like quality of political environment macro environment, professionalism, institutional development etc. impact the economic environment of the countries. A few studies are conducted on the impact of political instability and regime change,

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on the G-Secs market in some developed countries such as USA as well as developing countries such as India. While examining the political environment in 113 countries from 1950 to 1982, Alesina et al. (1992), using cross-section analysis, found that an unstable political environment decreases the speed of investments and economic growth. Similarly, Aisen and Veiga (2011) studied political instability in 169 countries from 1960 to 2004 and found that higher degrees of political instability is associated with lower growth rates of GDP per capita as political instability adversely affects physical and human capital accumulation and growth. Guscina (2008) also supported this, who established that an uncertain political climate, an unstable macroeconomic environment, and poor-quality institutions in emerging economies hinder the development of the domestic debt market. Particularly, Clara & Valkano (2003), Comiskey and Marsh (2012), and Blinder and Watson (2014) identified regime change impact in the US context. Clara & Valkano (2003) showed that during democratic presidencies in the US, the excess return in the stock market was higher than during Republican presidencies. However, they did not find any reason for such behaviour and considered it as a puzzle. Comiskey and Marsh (2012) confirmed the same by examining the data from 1949-2009. They reported that democratic presidents have stronger economic records in terms of higher growth, lower unemployment, and lower inequality than republican presidents. Blinder and Watson (2014) found a large gap in the economic performance between the presidencies of the democratic and republican presidents. The authors stated that oil shocks, productivity shocks, favourable international conditions, and consumer expectations are significant factors that explain slightly more than half of the 1.8 percent democratic and republican real GDP growth gap. Similarly, Huang et al. (2014) studied the international political risk in 34 countries from 1988 to 2007 and found a positive association between G-Secs yields and international political risk as investors demand higher risk premium during political uncertainty. Baldacci et al. (2011) studied the impact of political and fiscal risk on the sovereign spread in emerging markets from the period 1997 to 2008. The results showed that both political and fiscal risks affect the emerging market sovereign spread. The review reveals that very few studies are available in the finance literature, both in global and Indian contexts that examined the impact of political regime on Indian economy. Most of the researchers have considered political instability and its impact on the government securities market. Similarly, Dholakia (1998) in Indian context examined how political uncertainties affect the Indian economy. He specifically established that political uncertainty could be the cause of the slow-down of India's industrial growth, exports, and fall in the stock market since the last quarter of 1997. Since the literature identifies the impact of regime change on macroeconomic variables, this study examines the impact of regime change from UPA to NDA on short, medium and long-term G-Secs yield and YC. Based on this backdrop, the following hypotheses are proposed: Hence, it is hypothesised that:

- H1a: Regime change significantly influences the short-term Indian G-Secs yield.
- H1b: Regime change significantly influences the medium-term Indian G-Secs yield.
- H1c: Regime change significantly influences the long-term Indian G-Secs yield.
- H2a: Regime change significantly influences the slope of the YC.
- H2b: Regime change significantly influences the level of the YC.
- H2c: Regime change significantly influences the curvature of the YC.

3. METHODOLOGY

To study the impact of the regime, change on the G-Secs yield, and shape of the YC, t-test, and F-test are used. Since March 1998, India observed two regimes, namely NDA (National Democratic Alliance) and UPA (United Progressive Alliance). NDA government was led by Mr. Atal Bihari Vajpayee from 19-03-1998 to 22-05-2004, while Dr. Manmohan Singh led the UPA government from 22-05-2004 to 26-05-2014. Presently, the NDA government is led by Mr. Narendra Modi since 26-05-2014. Variables used for the analysis are: short term G-Secs yield represented by 15-91 days treasury bills yield (15-91TB) and one-year G-Secs yield (1YGSY), medium-term G-Secs yield represented by five-year G-Secs yield (5YGSY), long term G-Secs yield represented by ten-year G-Secs yield (10YGSY), slope: the difference between the ten year and one-year yields, level: the average of the one, five, and ten-year yields and curvature: sum of one-year and ten-year minus two times the five-year yield. Monthly data ranged from January 1997 to December 2017 extracted from the RBI database on the Indian economy (Reserve Bank of India, n.d.) is used for analysis.

4. DATA ANALYSIS AND RESULTS

4.1 Impact of political regime change from UPA to NDA

The impact of political regime change on the Indian G-Secs yield of different maturities and shapes of the YC, i.e., curvature, level, and slope, are given in table 1. The table shows that during the NDA regime, the average percentage yields of all the maturities, slope, level, and curvature of YC are higher than in the UPA regime. For instance, average one, five, and ten-year G-secs percentage yield increased from 6.95%, 7.57%, and 7.74% to 7.75%, 8.24%, and 8.61%, respectively. Also, slope, which is the difference between long and short-term G-secs yield, increased from 0.79% to 0.85%, showing that slope has become steeper during the NDA regime. The t-test shows that all average percentage yields and parameters of YC, except for slope, are significantly higher during the NDA regime. These results state that the impact of political regime change on yield and YC is significant except on the slope of YC. Results also show that standard deviation (fluctuations), which is the measure of risk, increases for one, five, ten-year G-Secs' yield and level, from 1.41%, 0.90%, 0.77% and 0.99% to 1.95%, 2.13%, 2.24% and 2.09% respectively and decreases for 15-91 days' treasury bills yield, slope, and curvature from 1.83%, 0.88% and 0.62% to 1.61%, 0.59% and 0.44% respectively. This increase or decrease is significant, as shown by the p-values of the F-test, except for 15-91 days' treasury bills yield. Table 1 also indicates that the t-test and F-test depict similar results for both one/two tail and equal/unequal variances.

Table 1 Impact of political regime change from UPA to NDA.

Calculations	UPA/NDA	15-91TB	1YGS Y	5YGS Y	10YG SY	Level	Slope	Curvature
Average	UPA (%)	6.58	6.95	7.57	7.74	7.42	0.79	-0.45
	NDA (%)	7.22	7.75	8.24	8.61	8.20	0.85	-0.11
Standard Deviation	UPA (%)	1.83	1.41	0.90	0.77	0.99	0.88	0.62
	NDA (%)	1.61	1.95	2.13	2.24	2.09	0.59	0.44
F-test (Two tail)	p-value	0.16	0.00	0.00	0.00	0.00	0.00	0.00
F-test (One tail)	p-value	0.08	0.00	0.00	0.00	0.00	0.00	0.00
t-test (Two tail unequal variance)	p-value	0.00	0.00	0.00	0.00	0.00	0.50	0.00
t-test (Two tail equal Variance)	p-value	0.00	0.00	0.00	0.00	0.00	0.51	0.00
t-test (One tail unequal variance)	p-value	0.00	0.00	0.00	0.00	0.00	0.25	0.00
t-test (One tail equal Variance)	p-value	0.00	0.00	0.00	0.00	0.00	0.25	0.00

Source: Authors' Calculations

Note: TB15_91 (15-91 days' maturity treasury bill yield), 1YGSY (one-year G-Secs yield) 5YGSY (five-year G-Secs yield), 10YGSY (ten-year G-Secs yield), NDA (National Democratic Alliance), UPA (United Progressive Alliance)

Further, based on the t-test results (Table 1), hypotheses pertaining to the type of securities (H1a; H1b & H1c) and nature of yield (H2a & H2b) are accepted, except regime change significantly influences the slope of the YC (H2c) (Table 2).

Table 2 Hypothesis Testing Results of Impact of Regime Change

S. No.	Hypothesis	Result
1.	H1a: Regime change significantly influences the short-term Indian G-Secs yield.	Accepted

2.	H1b: Regime change significantly influences the medium-term Indian G-Secs yield.	Accepted
3.	H1c: Regime change significantly influences the long-term Indian G-Secs yield.	Accepted
4.	H2a: Regime change significantly influences the slope of the yield curve.	Rejected
5.	H2b: Regime change significantly influences the level of the yield curve.	Accepted
6.	H2c: Regime change significantly influences the curvature of the yield curve.	Accepted

Source: Authors' Calculations

4.2 Discussion

This paper aims to study the impact of political regime change on Indian G-Secs yield of different maturities and the curvature, level, and slope of YC. The t-test and F-test are used to study the significant differences in average percentage yield and standard deviation (risk), respectively. The results reveal that with the regime change from UPA to NDA, average percentage short, medium, and long-term yield and level and curvature of YC increased significantly. However, regime change has no significant impact on the average slope of the YC. No significant impact on slope shows that the difference in short and long-term yield has not changed significantly from UPA to NDA. Further, with regime change, percentage fluctuations in the one, five, and ten-year G-Secs yield and the level of YC increased significantly. In contrast, fluctuations in the percentage slope and curvature have decreased significantly. Further, regime change has no significant impact on the fluctuations in percentage 15-91 days' treasury bills yield. These significant changes from UPA to NDA maybe because of the changes in monetary and fiscal policy and other factors such as weather conditions, changes in technology, and international factors such as changes in crude oil prices and fluctuations in global stock exchanges. Overall, it can be stated that political regime change has a significant impact on the G-Secs yield and shape of the YC. Further, it is suggested that investors in the Indian debt market, particularly in the G-Secs market, should keep themselves updated to changing political environment and adjust the investment strategies accordingly.

1. CONCLUSION

The study's primary objective is to examine the impact of political regime change from UPA to NDA on average percentage G-Secs yield of different maturities and curvature, level, and slope of YC in the Indian G-Secs market. The results show that regime change substantially impacts the percentage yield of all the maturities of G-Secs under consideration. The impact of regime change is also found on the level and curvature of the YC, whereas it has no significant effect on the slope. The significant impact of regime change on the types and nature of yield (except slope) may be because of changes in monetary policy, inflation, government expenditure, GDP growth, oil shock, international political and economic environment, or other economic variables in two regimes. Further, results also show that fluctuations, which is the measure of risk, increases for one, five, ten-year G-Secs' yield and level and decreases for 15-91 days' treasury bills yield, slope, and curvature. This increase or decrease is significant, as shown by the p-values of the F-test, except for 15-91 days' treasury bills yield. The research has implications for short as well as for long-term investors in the Indian G-Secs market. As results show that political regime change (i.e., from NDA to UPA) significantly impacts risk and return in the G-Secs market, investors should watch the change in yields and YC with the political regime change and change the investment strategies accordingly.

Authors & Contribution

Mr Rahul Rangotra and Prof. Hardeep Chahal together conceived the original idea and wrote the manuscript.

Conflict of Interest

The author certifies that he has no affiliations with or involvement in any organization or entity with any financial interest, or non-financial interest in the subject matter or materials discussed in this manuscript.

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