Chapter 12
Role of Artificial Intelligence in Strategic Debt Sustainability Planning

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ABSTRACT

Artificial intelligence is being utilised to discover fiscal hazards, shady tendencies and patterns, and dangerous entities in revenue creation. Previously, public debt was regarded as a vital tool for temporarily increasing revenue or purchasing power in exchange for the government's commitment to repay the main sum borrowed and, in most cases, interest on that principal. However, it has now become a permanent feature. The purpose of the government borrowing is to fill up the gap between the government revenue and proposed spending for the fiscal year. The objective of the study is to examine the significance of artificial intelligence in estimating the public debt on fiscal deficit of the government's, and to examine the trends in the revenue and fiscal deficits, with the view to identify the factors responsible for the same. The secondary data has been collected from Union Government's budget documents of various years. Further economic surveys and various other publications of Government of India, RBI, and other regulatory bodies has also been used to collect data and other relevant information. To analyse the collected data, statistical techniques such as solow model, trend regression analysis, and ratio analysis etc., has been used. The analysis results found that liabilities and debt in relation to GSDP have been increasing, and this has been particularly noticeable throughout the UDAY scheme's execution era and efficiency can be achieved with the use of AI in the field. However, the debt-to-GDP ratio is significantly below the 25% target set by the fourteenth finance commission.

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INTRODUCTION AND LITERATURE REVIEW

The use of AI in debt sustainability of governments has consistently been a key field of study in public economics in recent scenario, for trans-borders as well as within a country at the sub-national level. However, the wider definition of sustainability does not provide a complete and accurate status of the fiscal health of federal systems. While the level of debt conveys the accumulated effect of governments borrowings due to the expenditure - revenue incompatibility, its size and composition are influenced by a number of other fiscal indicators. It is like a chain of events involving several policy variables, with the result being sustainability of debt. (Renjith and Shanmugam, 2020).

Hassan, H., & Akhter, A. (2014) examined the connection between budget deficit and growth of economy. They focused on connections between GDP relapsed with real interest rate, deficit in budget and gross investment from 1976 to 2012. The authors analysed data using Vector Error Correction, ADF (Augmented Dickey–Fuller) and Johansen Co-integration Model at second stage. Results state significant negative effects of deficit in budget on growth of economy of Bangladesh.

Bhoir, R. B., & Dayre, S. R. (2015) analysed the influence of fiscal deficit on of the Indian economic growth during 1991-2014. Among the concerned variables, no significant relationship was found under the method of OLS. The study suggests that the Indian Government must focus on indices of human development, like health, infrastructure development and education to boost the productivity of physical and human capital which in turn will fast-track growth in economy.

Nayab (2015) analysed the effects of Deficit in budget on development of economy for Pakistan using the technique of VAR granger causality test, co-integration technique and technique of vector error correction 1976 to 2007. The Discoveries demonstrate that there is significant +ve effect of budgetary deficit on Economic development. The author also asserted that the outcomes of his study are in sustenance with Keynesian views on budgetary deficit.

Navaratnam, R., & Mayandy, K. (2016) analysed the fiscal deficit effects and its impact on the economy for Bangladesh, Sri Lanka, Nepal and Pakistan and India for 1980 to 2014. Time series annual data was collected for the purpose. The analysis uses the techniques of econometric such as Granger causality test & co-integration to analyze the relation between variables selected under study. The outcomes confirm that the fiscal deficit has negatively affected the growth of these countries economically except Nepal, which has positive impact.

Ramu MR, A., & Gayithri, K. (2016) aimed to examine both the longrun and shortrun relationship between the growth and fiscal deficit of Indian economy for the period of 1971 to 2012. The study was done through the techniques of Johansen's co-integration test, VECM (Vector error Correction Model), and Granger causality Test. Study concluded that the fiscal deficits have a negative impact on GDP, lending support to the neoclassical theory. It contends that lowering the revenue deficit component of the fiscal deficit can boost capital formation and inspire private sector for more investment. The paper's control variables, had a positive relationship with GDP, whereas the rate of exchange and revenue from taxes had a negative relationship. The authors advocate "Golden Rule" for the public finance, arguing that for the formation of capital fiscal deficit should be used.

Objectives and Methods

1. To analyze the role of AI in estimating significance of public debt on fiscal deficit of the State Government of Haryana.

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