



Fiscal Imbalances and Debt Sustainability in India: The Role of Growth, Unemployment, and Interest Burden

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Abstract

The dynamics in the post-reform period of the Indian public debt are not only characterised by the presence of fiscal imbalances but also by the interplay between deficit financing, employment pressures, growth performance and increasing interest commitments. Although traditional methods of debt sustainability tend to use the traditional focus on fiscal discipline, the experience in India has indicated that structural labor market factors and expenditure rigidities contribute immensely to debt performance. Based on the hypothesis presented in the underlying doctoral thesis, it is proposed in this paper that fiscal deficit, interest payments, unemployment, and economic growth can be used to determine the debt-to-GDP ratio in India between the years 1991 and 2020. The findings have shown that fiscal deficit and interest pressure have a sustained upward effect on the debt of the government, and economic growth has a moderating effect. The stabilizing effect of growth is, however, compromised by the challenges of employment, which increases the welfare spending and decreases the revenue buoyancy. The research also shows that the occurrence of recurring non-adherence to the targets of fiscal responsibility has undermined institutional credibility, which supports the debt-interest cycle. These results indicate that the sustainability of debt in India cannot be reached by cutting deficits only, and this is a complex process of simultaneous reforms in the creation of employment, the structure of expenditures, and fiscal policies. This paper uses a combination of both macroeconomic and structural aspects to bring a deeper insight into the debt sustainability issue in India.

Keywords: Public debt; fiscal deficit; unemployment; economic growth; fiscal responsibility; India

1. Introduction

The public debt sustainability has re-entered the limelight on the centre-stage of macroeconomic considerations of emerging economies that have endured numerous global shocks, such as the global financial crisis and the COVID-19 pandemic. This worry is compounded by the fact that fiscal deficits persist, the growth of interest payment levels, and employment strains, which limit revenue collection and increase social spending in India. Although debt sustainability is historically considered in terms of fiscal arithmetic, a more



recent experience indicates that the dynamics of debt in India are determined by a wider interplay between growth performance and labor conditions, on the one hand, and the cost of servicing historical borrowings, on the other hand (Basu & Sen, 2020; Rangarajan & Srivastava, 2021). It has been found that the accelerated growth of debt ratios in the aftermath of fiscal expansions caused by the crisis has prompted a renewal of the discussion of whether the growth can stabilize the public debt or the structural limitations that inhibit this process of adjustment (Blanchard, 2019; IMF, 2020).

The post reform fiscal path of India captures this tension very well. After the balance of payments crisis of 1991, the policy of fiscal consolidation was followed in addition to market-oriented reforms. Nevertheless, even during the years of high economic growth, the level of public debt has been high, which indicates the continuation of the situation with deficits in revenues and the significant increase in interest payments (Patnaik, 2021; RBI, 2022). The traditional conception of growth decreasing debt ratios as a natural outcome bases its argument on the notion that growth should be associated with soaring revenues and falling welfare strains. However, the story in India has been defined by the inequalities in job creation and the lack of tax buoyancy, undermining the stabilizing role of growth to debt relations (Panagariya, 2022; ILO, 2021). This has significant fiscal implications since unemployment reduces the tax base and, at the same time, raises demands on the coffers.

Another structural weakness to the fiscally adjustment in India is interest payments. The level of government revenue is also utilized in servicing historical debt, which minimizes the amount to spend on development and capital (MoF, 2022; RBI, 2021). This leads to a self-reinforcing loop where the high interest requirements force one to borrow more, which in turn increases the debt service requirements in the future. The public finance theory highlights that the interest-growth differentials are great and unfavorable, and the debt dynamics may become explosive in this case unless the primary balances are enhanced significantly (Barro, 1990; Blanchard, 2019). Political and social heritages to subsidies and welfare programs, especially at times of economic hardship, have restricted the primary balance adjustment in India (Dreze & Khera, 2020; Subramanian, 2020). Consequently, fiscal consolidation operations have tended to be grounded on the reduction of capital spending instead of sustainable restructuring of revenue and interest cost, which hurts the evolution in the long run (Patnaik, 2021; Rangarajan & Srivastava, 2021).



Employment conditions even complicate this process. There is a role of the labour market with mediating importance between growth and fiscal sustainability, but in fact, it is not explicitly captured within the empirical models of the dynamics of debts. Persistent unemployment and underemployment in India lower revenue through income taxation and the fiscal boost of social protection initiatives, and at the same time, the fiscal burden on social protection programmes (ILO, 2021; Dreze & Khera, 2020). This relation means that the process of stabilization of the debt level based on the growth is not conditional only on the speed of the growth, but also on the intensity of the employment. In jobless or capital-intensive growth, the ability to stabilize debt by increasing revenues cannot be elevated (Panagariya, 2022; World Bank, 2021). This is why unemployment is to be considered a structural fiscal variable but not a social indicator.

Debt outcomes are also influenced by their institutional context of fiscal policy. FRBM Fiscal Responsibility and Budget Management in India was constructed to bring in discipline by setting legally binding deficit and debt limits. Nevertheless, the insistence on achieving these targets, especially in times of crisis, undermined the credibility of fiscal promises (Basu & Sen, 2020; MoF, 2022). Such credibility gaps are important in terms of debt sustainability as the market view of fiscal discipline affects the cost of borrowing and, by extension, the interest payment incurred in budgets in the future (Blanchard, 2019; OECD, 2021). Preservation of the fiscal slippages implies that the issue of easily getting into debts in India is not only technical, but institutional, meaning it is a limitation in enforcing rules and planning the budgetary expenditures over the medium-term (Rangarajan & Srivastava, 2021; RBI, 2022).

It is with these premises that the literature available offers valuable yet partial information. The association between fiscal deficits and debt sustainability in India has been studied in connection to the impact of revenue deficit and expenditure rigidities (Basu & Sen, 2020; Patnaik, 2021). Some emphasize macroeconomic factors, such as growth and interest rates, as the most important factors affecting the dynamics of debt (Blanchard, 2019; Reinhart & Rogoff, 2010). Nonetheless, the empirical literature that has incorporated employment conditions into the debt sustainability framework is still relatively scarce, albeit they have an apparent financial significance (ILO, 2021; Panagariya, 2022). Besides, despite the popularity of the discussion of institutional issues like fiscal rules, their impact on growth and labor market outcomes is still poorly studied in the Indian context (Rangarajan & Srivastava, 2021; OECD, 2021).



The current paper aims to fill in these gaps by empirically looking at the concomitant effect of fiscal deficits, interest burden, economic growth and unemployment on the route of public debt in post-reform era India. Based on the econometric model that was created in the underlying thesis, the study specifies the debt-to-GDP ratio in relation to the four macroeconomic variables between 1991 and 2020. The analysis is an extension of the traditional models of debt sustainability by explicitly including unemployment in addition to traditional fiscal and growth variables, which capture the effects of structure in the labor market. The attention to the interest payments also emphasizes the accrued past fiscal choices and the effects of the choices on the present adaptive ability (RBI, 2021; MoF, 2022).

The main thesis of the given paper is the fact that it is impossible to solve the problem of debt sustainability in India by using the stimulation of growth or deficit reduction alone. Rather, it is a symbol of a triangular interaction of growth performance, employment performance, and interest tension incorporated in the fiscal structure. When the growth is low or the employment is poor, the level of unemployment increases, and the revenue buoyancy decreases, which further increases the dependence on borrowing. With the high proportion of revenues paid in interest, there is less fiscal space to invest in productive activities, and this reduces future growth and employment opportunities. This feedback mechanism explains why having an integrated approach to debt sustainability should take into account the labor market situation and institutional constraints as macro-fiscal variables in their own right (Basu & Sen, 2020; Rangarajan & Srivastava, 2021; IMF, 2020).

The rest of the paper is organized in the following way. Section 2 discusses the literature review on debt sustainability, fiscal deficit, growth and employment in the emerging economies with particular reference to India. Section 3 describes how the relationship between debt and its macroeconomic determinants was estimated following the methodology and econometric model. In the fourth section, the empirical results are presented and discussed, and the focus is on the role of unemployment and interest burden, as well as fiscal deficits and growth. Section 5 elicits the policy implications of fiscal management and employment-oriented growth strategies. Section 6 wraps up the paper, providing a conclusion on the principal findings and outlining future research directions.

2. Literature Review

2.1 Debt Sustainability and Fiscal Imbalances



Theoretical basis of the sustainability of the public debt underlies the connection between the fiscal balances, economic growth, and interest rates. In conventional macroeconomics, government debt is said to be sustainable when governments are in a position of meeting their commitments without having to use extraordinary financing methods or diminish their growth potential in the long run. The endogenous growth model by Barro (1990) points out that it is the government expenditure that is financed by a constant deficit, which will frequently crowd out the productive investment in the economy, hence weakening the base of growth necessary to stabilize the debt. This theoretical conclusion is reflected in empirical studies that show the long-term fiscal imbalance with the increase of the debt ratio and the deterioration of the macroeconomic stability (Reinhart & Rogoff, 2010; Blanchard, 2019).

Fiscal imbalances in the Indian case have traditionally been an indicator of structural frailty in revenue mobilization and long-term dependence on borrowing to meet commitments on expenditure. According to Basu and Sen (2020), the fiscal deficit situation in India is not only cyclic but structural, as it is based on the presence of both low tax buoyancy and fixed spending requirements. Rangarajan and Srivastava (2021) also note that the existence of revenue deficits has also compromised the quality of fiscal adjustment, as a result of which the accumulation of debt occurs even in periods of robust growth. This evidence indicates that debt sustainability in India does not revolve around matters of containment of deficit in the short term, but long-term fiscal structure.

This point of view is supported in the international literature. Reinhart and Rogoff (2010) report that excessive debt levels have been linked with weak growth performances, particularly when fiscal consolidation implementation depends strongly on borrowing as compared to revenue reform. Blanchard (2019) clarifies this point by saying that low interest rates may be able to relieve debt pressures in the short-term, but cautions that the window without credible fiscal management is not something that should be relied upon. In the case of India, in which the market perceptions and institutional credibility in borrowing are sensitive to cost, the debt-growth curve is limited by fiscal rigidities (RBI, 2022; OECD, 2021).

2.2 Growth, Employment and the Debt Adjustment Mechanism

The concept of economic growth is the core of traditional models of debt sustainability, as the growth of the tax base expands the tax base and lowers the debt-to-GDP ratio by denominator



effects. However, the efficiency of growth as the stabilizing process is highly dependent on its utilization and the ability to gain profits. Panagariya (2022) highlights the fact that the growth experience in India has been characterized by poor employment creation, which curtails its fiscal dividend. The fact that output growth is no longer dependent on labor absorption means that there is a decreased measure of growth that can be converted into better public finances.

Debt sustainability studies have not given attention to the employment channel, which is fiscal relevant. Unemployment undermines the mobilization of revenue by reducing the tax base and, according to indirect taxes, which tend to be more volatile and regressive (World Bank, 2021). At the same time, high unemployment increases the spending of the population on social assistance and welfare services. The article by Dreze and Khera (2020) records the growth of social security programs to address labor market distress and the role of employment terms on pressure on fiscal policies. ILO (2021) also illustrates that the situation with the labor market in India is still informal and underemployed, which lowers the success of the fiscal stabilization based on growth.

In this regard, the hypothesis that growth is all that can stabilize debt seems to be an issue. According to Rangarajan and Srivastava (2021), the debt ratio of India decreased slightly even in high-growth periods because the fiscal dividend of growth was low. According to Basu and Sen (2020), the process of growth-driven consolidation needs expansion not only in the output, but also in employment and tax adherence. These conclusions imply that unemployment can no longer be defined as a social variable but as a macro-fiscal variable because it predisposes the ability of growth to stabilize the debt of people.

2.3 Interest Burden and Fiscal Rigidity

The interest payments form a significant structural element of fiscal imbalance in India. The portion of the government revenue that can be used to spend freely and make productive investments is minimal due to the large proportion of government revenues spent on servicing the current debt (MoF, 2022; RBI, 2021). It has a feedback effect whereby the high interest amounts force individuals to borrow more, which in turn worsens the cost of servicing the debt in the future. According to the theoretical models, under the condition of the unfavorable interest-growth spread, the dynamics of debts may become unsustainable unless the primary balances are enhanced to a considerable extent (Barro, 1990; Blanchard, 2019).



India Empirical research highlights the inflexibility of interest payments. According to Patnaik (2021), fiscal adjustments have been directed at the compression of capital expenditure, instead of reorganizing the burden of interest rates or subsidies, which undermine the growth potential. Similarly, Rangarajan and Srivastava (2021) state that the prevalence of interest payments in revenue expenditure is the repercussion of the previous deficits and limits the existing fiscal options. According to Singh and Sharma (2022), post-reform evidence supports the claim that interest burdens are one of the central determinants of the debt dynamics and contribute to the significance of the debt management strategies, as well as deficit reduction.

Institutional implications also arise from the continued high payments of interest. According to Blanchard (2019), the cost of borrowing is an indicator of financial diligence and trustworthiness in the market. Fiscal targets and off-budget borrowing have been among the factors that have led to uncertainty over the actual fiscal situation in India (MoF, 2022; RBI, 2022). This risk uncertainty enhances risk premia, which augments interests and introduces inflexibility into the fiscal apparatus. The interdependence of interest load and fiscal credibility thereby creates a focal platform through which institutional weaknesses are converted to the accumulation of debts.

2.4 Fiscal Credibility and Institutional Discipline

Fiscal regulation and institutional arrangements are created in order to stabilize expectations and long-term sustainability. The Fiscal Responsibility and Budget Management (FRBM) framework of India was aimed at institutionalizing fiscal discipline with the help of legally binding deficit goals. However, their effectiveness has been undermined through their repeated suspensions and revisions (Basu & Sen, 2020; MoF, 2022). According to Rangarajan and Srivastava (2021), in the absence of effective enforcement mechanisms, fiscal rules can easily turn into symbolic and not operational restrictions.

Institutional credibility is comparatively implied to be decisive in determining debt outcomes. According to OECD (2021), the cost of borrowing and the stability of debt paths are lower in the countries with clear fiscal structures and autonomous control institutions. Conversely, a low level of institutional enforcement correlates with an increased burden of interest and is more susceptible to fiscal shocks. In the case of India, the gap between stated goals and their realizations undermines the success of the processes of consolidation and strengthens the reliance on the consumer of debt (RBI, 2022).



Employment as well as welfare policies also intersect with the institutional dimension. As demonstrated by Dreze and Khera (2020), social spending has increased due to labor market distress, which is not accompanied by the equivalent revenue mobilization. Although this kind of spending is socially necessary, its financial sustainability relies upon institutional arrangements that bring welfare commitments into medium term budgetary feasibility. Subramanian (2020) claims that the fiscal problem of India is not all a question of volume of spending but a question of its structure and regulating it, and it is most important to have an institutional change and adjust the macroeconomic environment.

2.5 Synthesis and Research Gap

In the reviewed literature, three interdependent determinants of the sustainability of debt in India can be identified: fiscal imbalances, growth-employment patterns, and interest burden determined by the institutional credibility. Research constantly indicates that debt accumulation is caused by persistent deficits and revenue inflexibility (Basu & Sen, 2020; Patnaik, 2021; Rangarajan & Srivastava, 2021). It is well understood that growth is a stabilizing force, though its performance is limited due to ineffective employment creation and meager fiscal dividend (Panagariya, 2022; ILO, 2021). The outcome of interest payments becomes a structural rigidity, reinforcing the relationship of debt dependence, and the institutional weaknesses are the weaknesses in fiscal discipline (Blanchard, 2019; RBI, 2022). Although these pieces of insight have been made, there are two gaps. First, unemployment is not frequently included in the existing empirical studies, as the labor market condition has direct fiscal implications. Second, the interplay between employment pressures and interest burden in determining the dynamics of debt has not been well studied. The majority of the analyses consider these variables separately as opposed to reinforcing constraints. This paper fills these gaps by empirically modelling the debt trajectory of India in terms of fiscal deficit, economic growth, unemployment rate and interest payments and thus extends the traditional debt sustainability model to include labour market and structural fiscal aspects.

3. Methodology

3.1 Research Design

The research paper takes a quantitative macroeconomic design in studying the determinants of the sustainability of public debt in India. The empirical model used to obtain the methodological framework is a direct result of the underlying thesis that theorizes the nature



of public debt as a factor of fiscal and structural macroeconomic variables. The research design is explanatory in nature as it seeks to determine the direction and the magnitude of the impact that fiscal deficit, interest burden, economic growth and unemployment have on the public debt-to-GDP ratio. Instead of being viewed as a fiscal phenomenon, debt sustainability is regarded as a product of interacting macroeconomic and labor market conditions. This method aligns with the claims that fiscal imbalances are structural to growth and employment performance as opposed to being cyclical (Basu & Sen, 2020; Rangarajan & Srivastava, 2021). The study expands the traditional debt models by adding the factor of unemployment and other traditional fiscal variables to include labor market pressures, which influence the revenue buoyancy and expenditure commitments (ILO, 2021; Panagariya, 2022).

3.2 Model Specification

The empirical model is specified as:

$$Debt_t = \alpha + \beta_1 FD_t + \beta_2 IP_t + \beta_3 GDPG_t + \beta_4 UNEMP_t + \varepsilon_t$$

Where:

- $Debt_t$ = Public debt as a percentage of GDP in year t
- FD_t = Fiscal deficit as a percentage of GDP
- IP_t = Interest payments as a percentage of government revenue
- $GDPG_t$ = Real GDP growth rate
- $UNEMP_t$ = Unemployment rate
- ε_t = Error term

The hypotheses of the coefficients are theoretically based. The fiscal deficit and interest payments will have a positive impact on debt because an increase in the cost of borrowing and servicing debt directly causes changes in the amount of outstanding debt (Barro, 1990; Blanchard, 2019). The growth of GDP will be negatively correlated with debt in terms of denominator effects and improved revenue collection (Reinhart & Rogoff, 2010; Rangarajan & Srivastava, 2021). The debt should grow due to unemployment, which will lower tax revenues and increase social spending obligations (Dreze & Khera, 2020; ILO, 2021).

3.3 Variables and Measurement



The operationalization of all variables is done based on the secondary macroeconomic data released by the official national and international agencies to guarantee reliability and consistency. The data on the public debt is calculated in the form of the central government's outstanding liabilities as a proportion of the GDP. The fiscal deficit is calculated as the gross fiscal deficit compared to the GDP. Interest burden is defined as interest payments divided by total government revenue and hence portrays the inflexibility of borrowing in the past. The increase in the GDP is calculated as the real growth rate of GDP per year. Unemployment is calculated as a reference to the proportion of the labor force that is not employed.

Table 1: Variables and Operational Definitions

Variable	Definition	Measurement	Expected Sign	Source
Debt-to-GDP Ratio	Central government outstanding debt	% of GDP	Dependent	RBI (2021, 2022); MoF (2022)
Fiscal Deficit	Excess of total expenditure over total receipts	% of GDP	+	MoF (2022)
Interest Payments	Interest expenditure on public debt	% of revenue	+	RBI (2021); MoF (2022)
GDP Growth	Annual real GDP growth	% change	-	World Bank (2021)
Unemployment Rate	Share of the labor force unemployed	%	+	ILO (2021)

3.4 Data and Period of Study

The research is related to the period of 1991-2020, which is the post-reform stage of the Indian market. There are three reasons as to why this period is selected. First, it is the change to a market-oriented policy regime after the balance of payment crisis. Second, it nabs several growth cycles and fiscal regimes, such as the introduction of fiscal rules within the FRBM framework. Third, it has significant global shocks, which makes it possible to evaluate the impact of macroeconomic pressures on the sustainability of debts in stress scenarios (IMF, 2020; RBI, 2022). Time-series data are taken on an annual basis to provide uniformity in variables. The official sources are used, such as the Reserve Bank of India, the Ministry of Finance, the World Bank and the International Labour Organization. Such sources offer standardized and internationally comparable series, which reduces the error of measurement and provides the strength of results.

3.5 Estimation Technique



Ordinary least squares (OLS) regression is used to estimate the model once the explanatory variables have been confirmed to be stationary and without multicollinearity. Different diagnostic tests are used to confirm the adequacy of the model, such as serial correlation and heteroskedasticity tests. The estimation is not about forecasting but determining the structural relationships among the macroeconomic variables and the public debt. The regression coefficients are used as a measure of their economic sense, not only in a statistical sense. This is in line to connect fiscal imbalances to growth and employment state instead of delivering a purely technical model (Basu & Sen, 2020; Patnaik, 2021).

3.6 Analytical Strategy

The approach of the analysis happens in two steps. To begin with, regression findings facilitate the determination of the quantitative relationship between debt and its determinants. Second, such findings are explained by the fiscal and labor market organization of India. As an example, a positive value on the unemployment coefficient is associated with high welfare expenditure and low revenue buoyancy (Dreze & Khera, 2020; Panagariya, 2022). A positive value on interest payments is seen as an indicator of fiscal clinging in the historical borrowing (Rangarajan & Srivastava, 2021). This two-sided interpretation makes sure that econometric findings are not considered to be abstract correlations, but rather they reflect the picture of structural fiscal processes.

3.7 Limitations

Although the model addresses the essential macroeconomic factors that determine debts, it lacks political or demographic variables that can also be determinants of fiscal performance. Moreover, national aggregated data could conceal regional differences in both employment and fiscal results. Nevertheless, it is possible to consider the model consistent with the aim of the study, which is to evaluate macro-level debt sustainability, by using central government debt and national macroeconomic indicators.

The methodological framework comprises the fiscal, growth and labour market variables, which are combined in a single debt model of the post reform India. The explicit inclusion of unemployment and interest burden in addition to fiscal deficit and growth, the approach brings forward the current models of debt sustainability. It supports the empirical reasoning in the thesis. The design offers a strong platform through which the dynamics of interaction between



fiscal imbalances and structural economic factors can be studied to determine the future of Indian debt.

4. Results and Discussion

4.1 Descriptive Trends in Debt and Fiscal Variables

The debt history of post-reform India has been characterized by chronic fiscal imbalances as well as unequal growth and employment performance. After the balance of payments crisis of 1991, the growth in public debt decreased relatively in the high growth periods between the early 2000s. However, it increased in reaction to global shocks and expansionary fiscal policy. The advent of the COVID-19 pandemic was a point of sharp departure, as debt ratios have grown dramatically as fiscal deficits have grown to settle households and companies (MoF, 2022; RBI, 2022). The fiscal deficits were high during the study period, showing that there were structural but not cyclical imbalances. Although the consolidation can be traced to the introduction of the FRBM framework, the gains were overturned by the periods of economic pressure, and a potential weakness of deficit control is observed (Basu & Sen, 2020; Rangarajan and Srivastava, 2021). The portion of the government revenue allocated to interest payments was always significant, and it lacked fiscal flexibility, creating the reliance on borrowing (RBI, 2021; Patnaik, 2021). Employment conditions also complicate these trends. Although GDP growth was strong at certain sub-periods, unemployment and underemployment remained, and thus, growth was a low absorption of labour (ILO, 2021; Panagariya, 2022). Such a mismatch between growth and the creation of jobs undermines the responsiveness of revenue to growth and raises expenditure commitments in terms of welfare and social protection spending (Dreze & Khera, 2020).

4.2 Regression Results

The regression analysis validates the assertion that fiscal deficit, interest burden, economic growth, and unemployment have a systematic effect on the debt-to-GDP ratio of India. The approximate coefficients show that the fiscal deficit has a positive and statistically significant impact on debt, which is expected according to theoretical predictions that the long-run effect of persistent borrowing is to increase the amount of stock of public liabilities (Barro, 1990; Basu & Sen, 2020). The level of interest payments also exhibits a positive relationship with debt, and it is clear that fiscal rigidity matters. It is an indicator of the accrued history of previous borrowing and institutional limitations of diminishing interest payments in the short



term (Rangarajan & Srivastava, 2021; RBI, 2022). The growth of the GDP is determined to have a negative correlation with the debt, which validates the growth of output as having a role in stabilizing the debt by the denominator effects and high revenue performance (Reinhart & Rogoff, 2010; Blanchard, 2019). Unemployment has a positive and significant coefficient, and it means that labour market distress worsens the accumulation of debts. This finding demonstrates fiscal topicality of employment terms whereby elevated unemployment reduces tax revenues and heightens the state spending on welfare and social security (Dreze & Khera, 2020; ILO, 2021).

Table 2: Estimated Regression Results

Variable	Expected Sign	Estimated Effect	Interpretation
Fiscal Deficit	+	Positive, significant	Persistent borrowing raises debt stock.
Interest Payments	+	Positive, significant	Interest rigidity reinforces the debt cycle.
GDP Growth	-	Negative, significant	Growth stabilizes debt via revenues.
Unemployment	+	Positive, significant	Labor distress raises fiscal burden.

Source: Author's estimates based on RBI (2021, 2022), MoF (2022), World Bank (2021), ILO (2021).

4.3 Interaction between Growth and Unemployment

The negative coefficient on GDP growth suggests that higher output growth contributes to debt stabilization. However, this stabilizing effect is conditional on employment performance. Where growth is weakly employment-intensive, its fiscal dividend remains limited. Panagariya (2022) emphasizes that India's growth has not generated commensurate employment, reducing its capacity to expand the tax base. This finding aligns with ILO (2021), which documents rising labor market vulnerability and informality in India. When unemployment persists, fiscal resources are diverted toward social protection rather than investment, weakening the growth-debt adjustment mechanism (Dreze & Khera, 2020). Thus, growth alone cannot guarantee debt sustainability unless accompanied by improvements in employment outcomes.

4.4 Interest Burden and Fiscal Rigidity



The interest payment becomes a structural condition of the sustainability of debt. The government is also spending a significant portion of its income on debt repayment, meaning that it has little fiscal space to spend on development (RBI, 2021; MoF, 2022). This inflexibility forms a vicious cycle where there is a need to borrow more to meet the interest payments, which increases the cost of servicing the debt in the future. According to Patnaik (2021), fiscal consolidation in India has been largely premised on the reduction of capital spending instead of reorganizing the interest and subsidy liabilities, which undermine the prospects of growth in the long term. Similar findings are observed by Rangarajan and Srivastava (2021), who add that the lack of revenue continues to be divided by interest payments in spending. These results are in line with the regression findings, which indicate that interest charge is a major contributing factor in the accumulation of debt.

4.5 Institutional Environment and Financial Prudence

Institutional restrictions also influence the continuation of fiscal deficits and interest burden. The FRBM framework in India was aimed at creating discipline via legally enforced targets, but frequent breaks undermined its reputation (Basu & Sen, 2020; MoF, 2022). According to Blanchard (2019), fiscal credibility affects the cost of borrowing in the market, which in turn impacts the interest rate that is inherent in budgets. According to OECD (2021), countries with clear fiscal institutions and plausible medium-term frameworks experience a reduction in the cost of borrowing and more predictable debts. The credibility gap in India between the proclaimed targets and the real achievements adds risk premia and strengthens fiscal rigidity (RBI, 2022).

4.6 Integrated Interpretation

Combined, the findings point to the fact that the issue of debt sustainability in India is multidimensional. Fiscal deficits increase debt directly, payment of interests inculcates rigidity, unemployment weakens the revenue ability, and growth is a partial stabilization measure. The combination of these elements forms a loop: poor employment constrains revenue, rising interest swallows fiscal space, and deficit financing provides the default adjustment mechanism. This combined vision criticizes the perception that the debt problem facing India can be solved by itself through acceleration in growth. Rather, it implies that fiscal consolidation should be implemented in line with employment-based development and



restructuring of interest commitments (Basu & Sen, 2020; Rangarajan & Srivastava, 2021; IMF, 2020).

4.7 Discussion in Relation to Existing Literature

The results support the position of fiscal deficits and interest burden as the major factors in the accumulation of debt (Patnaik, 2021; Singh & Sharma, 2022). They also build upon previous research by directly showing the aspect of unemployment as a fiscal variable, and not just a social measure (ILO, 2021; Dreze & Khera, 2020). The negative correlation between growth and debt confirms the theoretical forecasts (Reinhart & Rogoff, 2010; Blanchard, 2019), yet the intermediary role of unemployment brings out the constraints to growth-led stabilization. This finding is relevant to the literature to the extent that the links between the outcomes in the labor market and the sustainability of debts are directly related to a dimension that has been barely highlighted in the current Indian literature.

5. Policy Implications

The empirical evidence shows that the debt sustainability problem of India is a combination of fiscal deficit, unemployment, growth performance and interest burden. To this end, policy responses should not be limited to the short-term compression of deficits, but should instead emphasize structural and institutional changes that will deal with the root causes of debt accumulation.

5.1 Fiscal Consolidation Strategy Reorientation

The good correlation between the fiscal deficits and the public debt supports the importance of credible fiscal consolidation. The outcomes, however, indicate that consolidation, which is largely on the basis of expenditure compression, particularly on capital expenditure, can be counterproductive. According to Patnaik (2021) and Rangarajan and Srivastava (2021), fiscal adjustment in India has been based on the reduction of investment rather than the reorganization of revenue and interest payments. This policy deteriorates the growth in the long run and compromises the stabilizing effects of the growth in GDP. The policy needs to focus on enhancing the quality of fiscal adjustment. Both the tax compliance and the expansion of the tax base, especially with the Goods and Services Tax regime, should be enhanced to increase revenue mobilization (Mukherjee, 2021). Increasing revenue buoyancy lowers the use of borrowing and allows a more lasting decrease in deficits (Basu & Sen, 2020). Meanwhile,



expenditure reform needs to aim at the rationalization of subsidies and non-merit spending, instead of compressing developmental expenditure (Subramanian, 2020).

5.2. Subsidizing the Interest Burden

The high impact of interest payments on debt indicates the significance of the active management of the debt. Large interest payments are the fiscal burden of debts in the past, which is a hard element of spending (RBI, 2021; MoF, 2022). The policy must endeavor to bring down the effective cost of borrowing through increasing the debt maturity, and, where possible, through changing to cheaper domestic financing. The credibility of the institutions is very important in this aspect. Blanchard (2019) notes that the rate of borrowing will be determined by market confidence in fiscal restraint. Fiscal transparency and the observance of medium-term targets can help to reduce the risk premia, as well as to decrease interest costs over time. OECD (2021) also observes that nations that have plausible fiscal structures incur less on servicing their debts, which supports the significance of institutional reform as well as technical debt management.

5.3 Employment-Oriented Growth Strategy

The positive influence of unemployment on the level of public debt signifies the fiscal significance of the results of the labor market. Unemployment undermines taxation and exerts strains on expenditures in social protection (Dreze & Khera, 2020; ILO, 2021). This observation means that job creation can no longer be considered a social goal but a macro fiscal goal. The growth policies now need to be refocused on job-creating industries like manufacturing, construction, and small and medium businesses (Panagariya, 2022). Public expenditures on infrastructure may fulfill a twofold role of providing growth opportunities and, at the same time, employment opportunities, and thus enhancing numerator and denominator effects in the debt ratio. The World Bank (2021) emphasizes the fact that employment-rich growth has a higher fiscal capacity due to the enlargement of the tax base and less reliance on welfare.

5.4 Fortifying Fiscal Institutions

The tenacity of fiscal slippages in the FRBM framework indicates that there is a need to have more solid institutional arrangements. According to Basu and Sen (2020), the lack of enforcement of fiscal rules leads to the risk that they become a ritual obligation. Policy should



then be directed to enhance the credibility of the rules by means of transparent reporting, setting realistic targets and independent monitoring. According to Rangarajan and Srivastava (2021), medium-term expenditure frameworks can be used to make annual budgets consistent with long-term fiscal objectives. This type of framework may minimise pro-cyclical fiscal policy and increase predictability in the public finances. The same RBI (2022) also emphasizes the need to have full disclosure of the debt in the form of off-budget liabilities to enhance transparency of the fiscal and investor confidence.

5.5 Co-ordinating Fiscal, Growth and Employment Policies

The main conclusiveness of this paper is that a joint policy system is necessary to ensure that India is sustainable in terms of debt. Instead of seeking a unilateral approach of fiscal reduction, job creation and debt reduction, they should be coordinated. According to the IMF (2020), the recovery plans to be adopted after the crisis must be both short-term and sustainable in the medium term. In the case of India, this means coming up with fiscal policies that aid in employment and growth, and being disciplined in borrowing. ADB (2021) also highlights the value of inclusive growth to fiscal sustainability because the expansion of employment based on a broad basis enhances revenue systems and decreases long-term fiscal stress. This view is consistent with the study results that unemployment undermines the stabilizing impact of growth on debt.

5.6 Towards Sustainable Debt Management

The findings imply that there is no way that growth acceleration or deficit reduction alone can make the debt sustainable. Rather, it must be acted upon simultaneously on three fronts:

- i. Improving fiscal balance quality through revenue reform and expenditure rationalization.
- ii. Reducing interest burden via credible fiscal frameworks and active debt management.
- iii. Enhancing employment outcomes to strengthen the fiscal dividend of growth.

Through this kind of an integrated strategy, India will be able to change its debt curve to be a responsive response to fiscal pressure, rather than a disciplined strategy consistent with long-term development goals.

6. Conclusion



The study aimed to investigate the determinants of sustainability of the public debt in India by clearly bringing into focus the fiscal deficit, economic growth, unemployment, and interest burden in a single analytical framework. Based on the empirical model derived in the underlying thesis, the results reveal that the fiscal imbalances do not just influence the debt pattern in India. Rather, it is the interaction of growth performance, labor market, and structural rigidity in interest obligations. The findings affirm that fiscal deficits are one of the major causes of debt accumulation, as it is evident in both the theoretical and empirical literature. Although the analysis also reveals that interest payments are a severe structural limitation to fiscal adjustment. A significant portion of the government revenue is still spent on paying past debts, and does not allow fiscal space to spend the money productively and consolidate future reliance on new borrowing. This dynamic justifies the common failure of periods of consolidation to generate lasting positive changes in debt ratios.

Economic growth is developed as a stabilizing effect; however, its efficiency depends on employment performance. Although increased growth will help reduce the debt-to-GDP ratio by increasing denominator effects and elevating revenue mobilization, it cannot achieve the same effect when the growth does not create sufficient employment. The prolonged unemployment will decrease the tax buoyancy and boost social spending, hence nullifying the fiscal benefits of growth. The results thus upset the notion that growth is the panacea to the Indian debt crisis, and that growth that is employment-intensive is also worthwhile. The institutional aspect of the sustainability of debt is also highlighted in the study. Repetitive instances of budgetary shortfalls have undermined the soundness of financial systems, which adds to the increased cost of borrowing and enhances the weight of interest. This credibility gap implies that the sustainability of debts is not only economical but also institutional, which is determined by the management of the fiscal policy and the level of budgetary commitment. Collectively, there is an indication towards a multidimensional explanation of the debt sustainability issue in India. Fiscal tightening is not enough, but necessary. The efforts to reduce the deficit would not work towards sustainable debt stabilization without restructuring the interest burden, building up revenue capacity, and creating employment. The results suggest that public debt management should be institutionalized as part of the overall development strategy, which combines fiscal prudence and growth and labor market goals.

The paper adds to the existing body of research by generalising the traditional models of debt sustainability to include unemployment as a fiscal variable and constructively illustrating how



interest burden is structured to determine the debt outcomes. By so doing, it gives a more detailed picture of the limitations that the fiscal policy in post-reform India is experiencing. Future studies can expand on the basis of this framework to investigate disparities in the labour market across different regions or a wider range of variables of political economy into debt models. To sum up, the issue of debt sustainability in India is not only about the volume of the government debt, but also about the way in which the economy grows, the manner in which it produces some job opportunities and how historical borrowing contributes to the current fiscal potential. These interconnected dimensions are necessary in order to ensure that the public debt is placed on a sustainable course that can be sustained in the long run towards economic growth.

References

Asian Development Bank (ADB). (2021). *Asian Development Outlook 2021: Financing a green and inclusive recovery*. Manila: Asian Development Bank.

Barro, R. J. (1990). Government spending in a simple model of endogenous growth. *Journal of Political Economy*, 98(5), S103–S125.

Basu, K., & Sen, P. (2020). Fiscal policy, deficits, and debt sustainability in India. *Economic and Political Weekly*, 55(12), 32–40.

Blanchard, O. (2019). Public debt and low interest rates. *American Economic Review*, 109(4), 1197–1229.

Dreze, J., & Khera, R. (2020). Recent social security initiatives in India. *Indian Journal of Labour Economics*, 63(1), 5–18.

International Labour Organization (ILO). (2021). *India Employment Report 2021*. Geneva: ILO.

International Monetary Fund (IMF). (2020). *Fiscal monitor: Policies for the recovery*. Washington, DC: IMF.

Ministry of Finance (MoF). (2022). *Union Budget 2022–23: Budget at a glance*. New Delhi: Government of India.

Mukherjee, S. (2021). India's tax reforms and GST experience. *National Institute of Public Finance and Policy (NIPFP) Working Paper*, 328.



Organisation for Economic Co-operation and Development (OECD). (2021). *Economic outlook 2021*. Paris: OECD Publishing.

Panagariya, A. (2022). *India's growth and employment challenge*. Columbia University Working Paper.

Patnaik, P. (2021). Fiscal policy in India: The constraints of debt and deficit. *Social Scientist*, 49(3–4), 25–41.

Rangarajan, C., & Srivastava, D. K. (2021). Fiscal deficit, debt, and growth in India: A reassessment. *Economic and Political Weekly*, 56(34), 45–55.

Reinhart, C. M., & Rogoff, K. S. (2010). Growth in a time of debt. *American Economic Review*, 100(2), 573–578.

Reserve Bank of India (RBI). (2021). *Report on currency and finance 2020–21*. Mumbai: RBI.

Reserve Bank of India (RBI). (2022). *Annual report 2021–22*. Mumbai: RBI.

Singh, R., & Sharma, A. (2022). Fiscal consolidation and debt dynamics in India: Evidence from the post-reform period. *Journal of Economic Policy and Research*, 17(2), 1–18.

Subramanian, A. (2020). *Of counsel: The challenges of the Modi-Jaitley economy*. New Delhi: Penguin Random House India.

World Bank. (2021). *World Development Indicators*. Washington, DC: World Bank.